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Water Supply Outlook For Washington

U.S. DEPT
OF AGRICULTURE
FEB 1 1982



SOIL CONSERVATION SERVICE
U.S. DEPARTMENT OF AGRICULTURE

Cooperating with

DEPARTMENT OF ECOLOGY STATE OF WASHINGTON

AS OF
February 1, 1982

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

Cover: Lone Cone, near Norwood, Colorado, blanketed by its winter mantle of snow.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, Federal Building, 230 N. First Ave., Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno, Nevada 89505
Oregon	1220 S. W. Third Ave., Portland, Oregon 97204
Utah	4420 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U. S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Snow Surveys Branch, California Department of Water Resources, P.O. Box 388, Sacramento, California 95802 --- for British Columbia by the Ministry of the Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia V8V 1X5 --- for Yukon Territory by the Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory Y1A 3V1 --- and for Alberta, Saskatchewan, and N.W.T. by the Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W., Calgary, Alberta T3C 1A6.



WATER SUPPLY OUTLOOK FOR WASHINGTON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

NORMAN A. BERG
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WASHINGTON, D C

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STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
SPOKANE, WASHINGTON

In Cooperation with

DONALD W. MOOS
DIRECTOR
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Report prepared by

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SOIL CONSERVATION SERVICE
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SPOKANE, WASHINGTON 99201

Memorandum for the President

Subject: [Illegible]

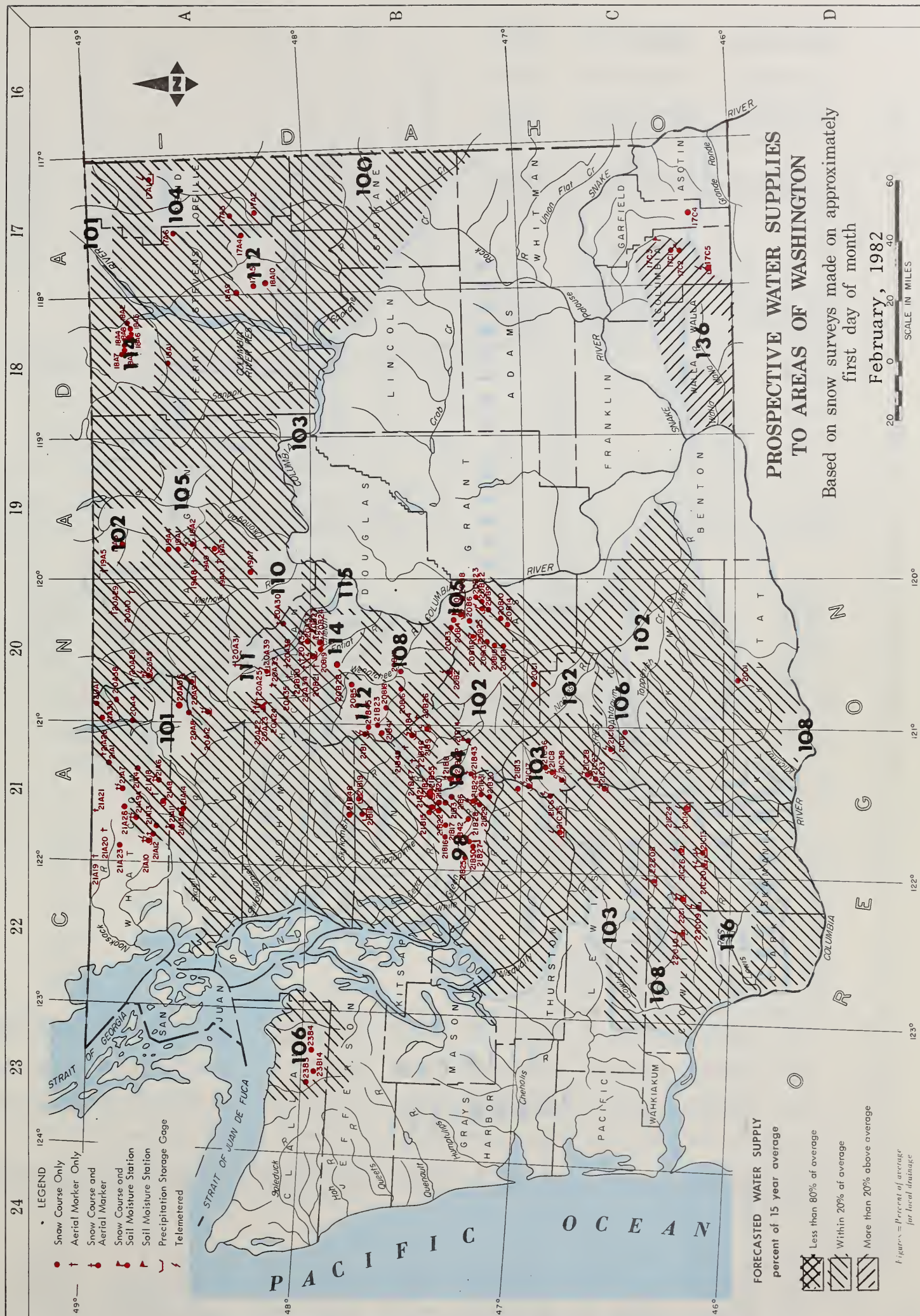
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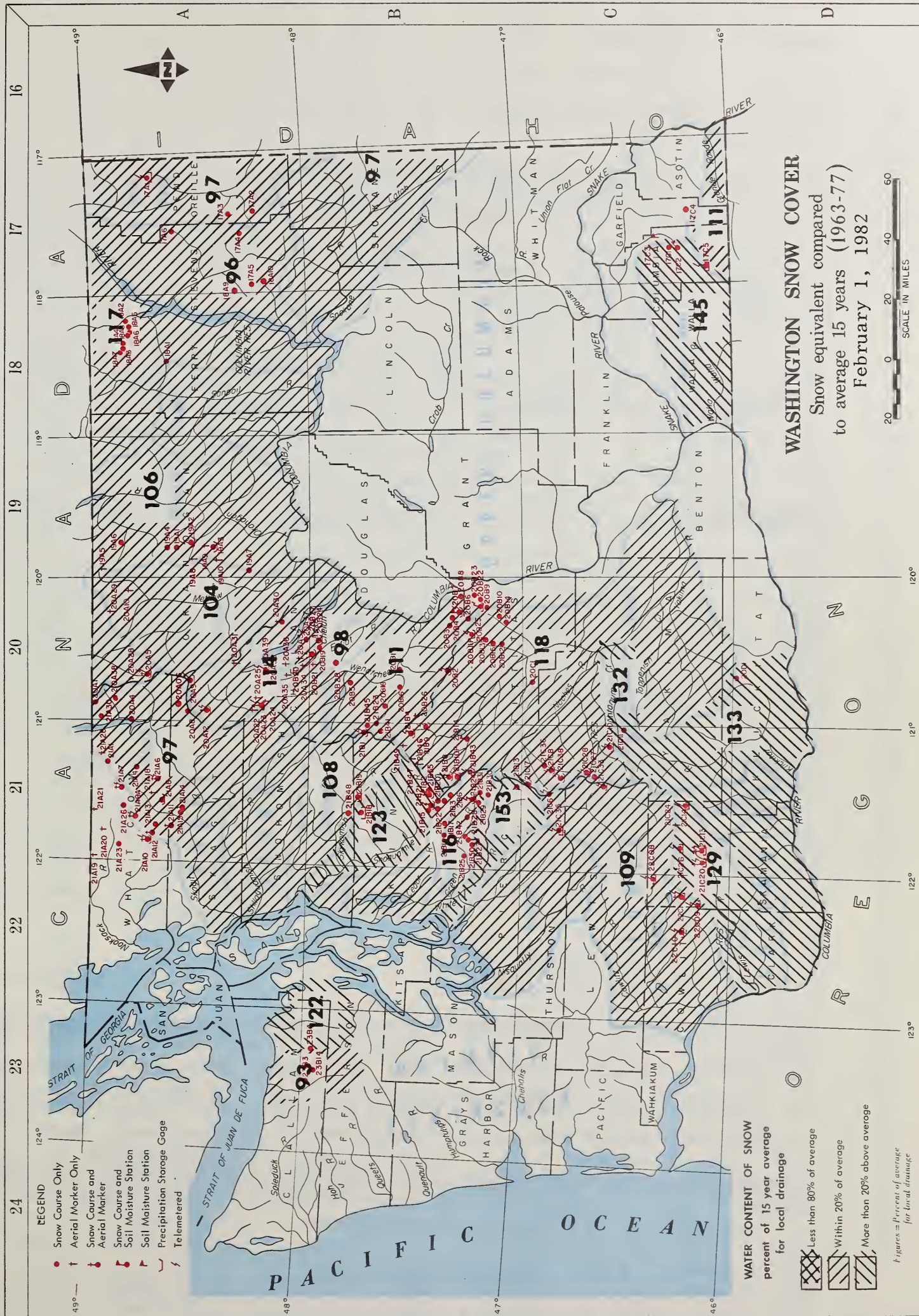
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Very respectfully,
[Illegible Signature]



INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGE GAGES

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.	NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
UPPER COLUMBIA DRAINAGE											
Pend Oreille River											
Bayer Mountain	17A2	7	31N	43E	5250	Colockum Creek Upper	20B22	11	20N	20E	5300
Bunchgrass Meadow	17A1SP	24	37N	44E	5000	Colockum Creek Lower	20B23	1	20N	20E	4300
Winchester Creek	17A3	30	33N	43E	2970	Squilechuck Creek	20B3	12	21N	19E	4400
Kettle River											
Boulder Road	18A2	36	39N	36E	1450	Scout-A-Vista	20B4	18	21N	20E	3400
Butte Creek	18A3	28	39N	35E	4070	Stemilt Creek	20B8	34	21N	20E	4450
Cabin Creek	18A8	5	38N	36E	3170	Jump-Off	20B6	30	21N	20E	5000
Goat Creek	18A4	26	39N	35E	3395	Stemilt Slide	20B7SP	30	21N	20E	4400
Snow Caps Creek	18A5	3	38N	36E	2150	Upper Wheeler	20B7SP	30	21N	20E	4400
Snow Caps Trail	18A6	5	38N	36E	2720	Yakima River	21C11	24	12N	14E	3100
Summit G. S.	18A7	20	39N	35E	4600	Ahtanum R. S.	21C11	24	12N	14E	3100
Colville River											
Baird	17A6	19	36N	42E	3215	Big Boulder Creek	21B9SP	35	23N	14E	3200
Carlson	18A9	34	32N	38E	2885	Bumping Lake	21C8P	23	16N	12E	3450
Chevelah	17A4	11	32N	41E	4925	Bumping Lake New	21C36	13	16N	12E	3400
Stranger Mountain	17A5	26	31N	38E	4990	Bumping Ridge	21C38SP	9	15N	12E	4600
Togo	18A10	6	29N	38E	3370	Colockum Pass	20B9	25	20N	20E	5370
Sanpoil River											
Sherman Creek Pass	18A1	19	36N	35E	5350	Cooke Creek	20B10	17	19N	20E	4123
Clark	19A8a	2	36N	23E	7000	Fish Lake	21B4SP	28	24N	14E	3371
Muckamuck	19A9a	20	36N	24E	6750	Green Lake	21C10SP	3	12N	13E	6000
Murtan Creek No. 1	19A1	30	37N	24E	5700	Grouse Camp	20B11SP	29	21N	19E	5385
Murtan Creek No. 2	19A4	19	37N	24E	6000	High Creek	20B12	34	20N	19E	2930
Paysayten	20A28a	32	40N	18E	4300	Joe Lake	21B46a	22	23N	12E	4624
Rusty Creek	19A3P	18	35N	24E	4000	Lake Cle Elum	21B47a	7	23N	13E	3327
Salmon Meadows	19A2SP	33	37N	24E	4500	Manastash	20C1	24	17N	16E	3935
Starvation Mtn.	19A10a	15	35N	23E	6750	Morse Lake	21C17SP	6	16N	11E	5400
Touts Caullee	19A6	30	39N	23E	2845	Nanum	20B13	4	20N	19E	3875
Methow River											
Billy Goat Pass	20A10a	10	38N	20E	6400	Trail Creek	20B14	20	19N	20E	3360
Dallar Watch	20A29a	8	39N	20E	7000	Tunnel Avenue	21B8P	13	21N	11E	2450
Harts Pass	20A5SP	7	37N	18E	6500	Van Epps Pass	20B26a	16	23N	15E	5925
Hogshoe Basin	19A5a	15	40N	23E	7000	Walters Flat	20B15	22	20N	19E	3360
Loup Laup	19A7	36	34N	23E	4650	Wapitus Lake	21B49a	12	23N	13E	3024
Chelan Lake Basin											
Claudy Pass	20A22a	12	31N	15E	6500	White Pass (East Side)	21C28SP	2	13N	11E	4500
Greenwood Flat	20A25a	3	31N	16E	3540						
Little Meadows	20A24a	8	31N	16E	5275						
Lyman Lake	20A23SP	18	31N	16E	5900						
Park Creek Ridge	20A12SP	18	34N	16E	4600						
Rainy Pass	20A9SP	21	35N	17E	4780						
Safety Harbor	20A30a	32	31N	20E	6300						
War Creek Pass	20A31a	34	33N	18E	6500						
Mirror Lake	20A39	30	31N	18E	5600						
Entiat River											
Blue Creek G.S.	20B28a	19	28N	18E	5425						
Brief	20B19	34	28N	19E	1600						
Entiat Meadows	20A33a	28	31N	17E	4540						



INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGE GAGES

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
UPPER COLUMBIA DRAINAGE					
Pend Oreille River					
Boyer Mountain	17A2	7	31N	43E	5250
Bunchgrass Meadow	17A1SP	24	37N	44E	5000
Winchester Creek	17A3	30	33N	43E	2970
Kettle River					
Boulder Road	18A2	36	39N	36E	1450
Burte Creek	18A3	28	39N	35E	4070
Cabin Creek	18A8	5	38N	36E	3170
Coat Creek	18A4	26	39N	35E	3595
Snow Caps Creek	18A5	3	38N	36E	2150
Snow Caps Trail	18A6	5	38N	36E	2720
Summit G. S.	18A7	20	39N	35E	4600
Colville River					
Baird	17A6	19	36N	42E	3215
Carlson	18A9	34	32N	38E	2885
Chewelah	17A4	11	32N	41E	4925
Stranger Mountain	17A5	26	31N	38E	4990
Togo	18A10	6	29N	38E	3370
Sanpoil River					
Sherman Creek Pass	18A1	19	36N	35E	5350
Okanogan River					
Clark	19A8a	2	36N	23E	7000
Muckamuck	19A9a	20	36N	24E	6750
Mutton Creek No. 1	19A1	30	37N	24E	5700
Mutton Creek No. 2	19A4	19	37N	24E	6000
Payson	20A28a	32	40N	18E	4300
Rusty Creek	19A3P	18	35N	24E	4000
Salmon Meadows	19A2SP	33	37N	24E	4500
Starvation Mtn.	19A10a	15	35N	23E	6750
Touts Coulee	19A6	30	39N	25E	2845
Methow River					
Billy Goat Pass	20A10a	10	38N	20E	6400
Dollar Watch	20A29a	8	39N	20E	7000
Harts Pass	20A5SP	7	37N	18E	6500
Horseshoe Basin	19A5a	15	40N	23E	7000
Loup Loop	19A7	36	34N	23E	4650
Chelan Lake Basin					
Claudy Pass	20A22a	12	31N	15E	6500
Greenwood Flat	20A25a	3	31N	16E	3540
Little Meadows	20A24a	8	31N	16E	5275
Lynan Lake	20A23SP	18	31N	16E	5900
Park Creek Ridge	20A12SP	18	34N	16E	4600
Rainy Pass	20A9SP	21	35N	17E	4780
Safety Harbor	20A30a	32	31N	20E	6300
War Creek Pass	20A31a	34	33N	18E	6500
Mirror Lake	20A39	30	31N	18E	5600
Entiat River					
Blue Creek G.S.	20B28a	19	28N	18E	5425
Brief	20B19	34	28N	19E	1600
Entiat Meadows	20A33a	28	31N	17E	4540
Entiat River Trail	20A34a	2	29N	17E	3325
Four Mile Ridge	20B27a	15	28N	19E	6800
Fox Camp	20A36a	17	30N	18E	6510
Pope Ridge	20B20	22	29N	18E	3540
Pope Ridge Snow Pillow	20B24SP	22	29N	18E	3540
Pugh Ridge	20A32a	34	30N	18E	6725
Shady Pass	20A37	20	29N	19E	6200
Snow Brushy	20A35a	21	30N	17E	3910
Tommy Creek	20B21a	10	28N	18E	4900
Wenatchee River					
Berne-Mill Creek	21B23	7	26N	15E	3170
Berne-Mill Creek (New)	21B41SP	13	26N	14E	3240
Blewett Pass No. 2	20B2 SP	35	22N	17E	4270
Chiwaukum G. S.	20B16	4	25N	17E	1810
Lake Wenatchee	20B5	33	27N	17E	1970
Leavenworth R. S.	20B17	1	24N	17E	1127
Merritt	20B18	4	26N	16E	2140
Stevens Pass	21B1SP	14	26N	13E	4070
Stevens Pass Sand Shed	21B45	12	26N	19E	3700
Trough #2	20B25SP	10	20N	20E	5310
LOWER COLUMBIA DRAINAGE					
Colockum Creek					
Colockum Creek Upper	20B22	11	20N	20E	5300
Colockum Creek Lower	20B23	1	20N	20E	4300
Squilehuck Creek					
Beehive Springs	20B3	12	21N	19E	4400
Scout-A-Vista	20B4	18	21N	20E	3400
Stemilt Creek					
Jump-Off	20B8	34	21N	20E	4450
Stemilt Slide	20B6	30	21N	20E	5000
Upper Wheeler	20B7SP	30	21N	20E	4400
Yakima River					
Ahtanum R. S.	21C11	24	12N	14E	3100
Big Boulder Creek	21B9SP	35	23N	14E	3200
Bumping Lake	21C8P	23	16N	12E	3450
Bumping Lake New	21C36	13	16N	12E	3400
Bumping Ridge	21C38SP	9	15N	12E	4600
Colockum Pass	20B9	25	20N	20E	5370
Cooke Creek	20B10	27	19N	20E	4123
Fish Lake	21B4SP	28	24N	14E	3371
Green Lake	21C10SP	3	12N	13E	6000
Grouse Camp	20B11 SP	29	21N	19E	5385
High Creek	20B12	34	20N	19E	2930
Joe Lake	21B46a	22	23N	12E	4624
Lake Cle Elum	21B14M	15	20N	14E	2200
Lench Creek	21B47a	7	23N	13E	3327
Monastash	20C1	24	17N	16E	5935
Morse Lake	21C17SP	6	16N	11E	5400
Nanum	20B13	4	20N	19E	3875
Trail Creek	20B14	20	19N	20E	3360
Tunnel Avenue	20B14	13	21N	11E	2450
Van Epps Pass	20B26a	16	23N	15E	5925
Walters Flat	20B15	22	20N	19E	3360
Wapitus Lake	21B49a	12	23N	13E	3024
White Pass (East Side)	21C28SP	2	13N	11E	4500
PUGET SOUND DRAINAGE					
Nisqually River					
Paradise Park (New)	21C35 SP	13	15N	8E	5500
White River					
Corral Pass	21B13 SP	30	18N	11E	6000
Green River					
Airstrip	21B24P	18	20N	11E	1800
Charley Creek	21B25	27	21N	8E	1200
Cougar Mountain	21B42SP	21	21N	9E	3200
Grass Mountain No. 2	21B27	14	20N	8E	2900
Grass Mountain No. 3	21B28	12	20N	8E	2100
Lester Creek	21B29	36	20N	10E	3100
Lynn Lake	21B50	22	20N	8E	4000
Sawmill Ridge	21B31	5	19N	11E	4700
Snowshoe Butte	21B43SP	14	20N	11E	5000
Stampede Pass	21B10 SP	25	21N	11E	3860
Twin Camp	21B30	18	19N	11E	4100
Cedar River					
City Cabin	21B3	10	21N	10E	2390
Mt. Gardner	21B21P	30	22N	10E	3300
Mt. Gardner Aux.	21B22	31	22N	10E	2500
Mt. Lindsey	21B16P	31	22N	9E	2500
Mt. Washington	21B15P	8	22N	9E	3000
Rex River	21B17 P	11	21N	9E	2400
South Fork Cedar	21B6P	24	21N	10E	3000
Tinkham Creek	21B20P	1	21N	10E	3400
Snoqualmie River					
Alpine Meadows	21B48	31	27N	9E	3500
Olallie Meadows	21B2P	19	22N	11E	3625
South Fork Tolt	21B18P	26	26N	9E	1900
Olallie Meadows East	21B55SP	20	22N	11E	8700
Skykomish River					
Lake Elizabeth	21B19 P	33	26N	10E	2900
Skagit River					
Beaver Creek Trail	21A4	35	39N	12E	2200
Beaver Pass	21A1	9	39N	12E	3680
Brown Top	22C15P	8	9N	7E	3800
Devils Park	20A4	26	40N	12E	6000
Freezeout Creek Trail	20A1	34	38N	16E	5900
Freezeout Meadows (New)	20A38	14	40N	14E	3500
Granite Creek	20A06	8	40N	16E	5000
New Hozomeen Lake	20A08	25	36N	16E	3500
Meadows Cabins	20A30	29	36N	14E	1900
Thunder Basin	21A30	19	40N	14E	2800
	20A07	10	35N	14E	4200
Baker River					
Dock Butte	21A11A	8	36N	8E	3800
Easy Pass	21A7A	19	39N	11E	5200
Jasper Pass	21A6A	17	38N	11E	5400
Marten Lake	21A9A	23	38N	8E	3600
Mount Blum	21A18a	27	38N	10E	5800
Rocky Creek	21A12AP	20	37N	8E	2100
Schreibers Meadow	21A10AP	18	37N	8E	3400
S. F. Thunder Creek	21A14A	20	36N	9E	2200
Sulphur Creek	21A13	22	37N	8E	1600
Three Mile Creek	21A15	18	36N	9E	1600
Watson Lakes	21A8P	25	37N	9E	4500
Nooksack River					
Bald Mountain	21A19a	7	40N	7E	4400
Canyon	21A20A	20	40N	8E	5100
Glacier Creek	21A23	9-10	38N	7E	3700
Panorama New	21A26	17	39N	9E	4300
Twin Lakes	21A21a	16	40N	9E	5200
OLYMPIC PENINSULA					
Dungeness River					
Deer Park	23B4	1	28N	5W	5200
Morse Creek					
Cox Valley	23B14	31	29N	6W	4500
Elwha River					
Hurricane	23B3	36	29N	7W	4500
LEGEND					
21A7	Snow Course Only				
21A7A	Snow Course And Aerial Marker				
21A7M	Snow Course And Soil Moisture Station				
21A7P	Snow Course And Precipitation Storage Gage				
21A7SP	Precipitation Storage Gage				
	Snow Pillow				

WATER SUPPLY OUTLOOK

State of Washington

February 1, 1982

As reported by the National Weather Service, January rainfall was above normal in all drainage divisions used for this report. The wettest areas were along the east slopes of the Cascades and in the Okanogan drainage, both with 123 percent of normal rainfall. The driest areas were the Bend-Orellia-Spokane drainage of eastern Washington and northern Idaho with a 101 percent of average rainfall. The November through January precipitation now ranges from a low of 56 percent of normal for the Bend-Orellia-Spokane drainage to a high of 116 percent for the southeastern portion of the state. Fall rainfall varied from 12 percent below normal to 45 percent above normal.

The outlook for water supply in the state of Washington can be considered near normal as of February 1, 1982. The snowpack is average or above and rainfall has been better than normal. The snowpack now ranges from a high of 45 percent above normal in the southeastern portion of the state to 7 percent below average on the Elwha River near Port Angeles. Above normal snowfall occurred over the northern portion of the state and tributary basins during January but near normal snow fell over the rest of the state.

River flows during January were generally below normal with a few exceptions. The Kettle had an outflow of 86 percent above normal and the Columbia at Birchbank, 7 percent above. The least amount of water came from western Montana where the Bend-Orellia was only 46 percent of average. Forecasts of spring and summer runoff are generally for near normal outflows with the only substantial amounts occurring in the Puget Sound drainage. The largest, percentagewise, is the forecast of Mill Creek at Walla Walla which is expected to flow 36 percent above normal during the April-September period. Numerical forecasts can be found following this narrative.

SNOW COVER

The snowpacks in the Upper Columbia portion of the watershed average 8 percent above normal and 312 percent greater than last year. Along the Lower Columbia portion of the basin, snow cover is 29 percent greater than average and 774 percent better than last year. In the Puget Sound drainage, February 1 snow cover was 19 percent above average and 677 percent better than last year. The extremes occurred on the Olympic Peninsula where the current snowack is 8 percent greater than average but 2148 percent better than last year.

RESERVOIRS

The Yakima irrigation reservoirs have the least amount of water in storage of all major reservoirs in the state. With a capacity of 1,066,000 acre-feet, the current storage is only 407,800 acre-feet, or 38 percent. The average capacity is 656,400 acre-feet. Most of this deficit is in Lake Cle Elum. The storage in this reservoir is only 13 percent of capacity. Lake Cle Elum is the largest of the five Yakima reservoirs and is the easiest to fill. It is anticipated that all reservoirs will fill with the spring runoff. Most power reservoirs have above normal amounts of water in storage -- 34 percent above for Lake Roosevelt, and 9 percent above for Lake Chelan. Ross Reservoir has water in storage that is 7 percent below normal.

PRECIPITATION

As reported by the National Weather Service, January rainfall was above normal in all drainage divisions used for this report. The wettest areas were along the east slopes of the Cascades and in the Okanogan drainage, both with 123 percent of normal rainfall. The driest area was the Pend Oreille-Spokane drainage of eastern Washington and northern Idaho with a 101 percent of average rainfall. The November through January precipitation now ranges from a low of 96 percent of normal for the Pend Oreille-Spokane drainage to a high of 114 percent for the southeastern portion of the state. Fall rainfall varied from 12 percent below normal -- again on the Pend Oreille-Spokane -- to a high of 64 percent above for the Okanogan drainage division.

STREAMFLOW

River flows during January were generally below normal with a few exceptions. The Kettle had an outflow of 86 percent above normal and the Columbia at Birchbank, 7 percent above. The least amount of water came from western Montana where the Pend Oreille was only 46 percent of average. Forecasts of spring and summer runoff are generally for near normal outflows with the only subnormal amounts occurring in the Puget Sound drainages. The largest, percentagewise, is the forecast of Mill Creek at Walla Walla which is expected to flow 36 percent above normal during the April-September period. Numerical forecasts can be found following this narrative.

STREAMFLOW FORECASTS - FEBRUARY, 1982

The following summarized runoff forecasts are based principally on mountain snow-cover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts. The forecasts are made as a product of the cooperative efforts of the Soil Conservation Service and the National Weather Service. Streamflow figures for 1981 are preliminary and subject to revision.

Basin, Stream and Station	Forecast Runoff 1982	Seasonal Streamflow in Thousands of Acre-Feet					
		% 15-Yr. Avg.	Fore- cast period	1981	1980	1979	15-Yr. Average 63-77
COLUMBIA BASIN							
COLUMBIA RIVER SYSTEM							
Columbia River	45900	101	Apr-Sept	48531	40816	34484	45510
at Birchbank <u>1/</u>	36700	101	Apr-July	38501	34085	27181	36358
	26500	101	Apr-June	27002	27623	19661	26197
Columbia River	69800	103	Apr-Sept	70303	61016	52769	68026
at Grand Coulee <u>1/</u>	58500	103	Apr-July	58525	52320	44096	57050
	45600	103	Apr-June	44235	43871	35138	44280
Columbia River	77400	105	Apr-Sept	77308	66512	55298	73911
bl. Priest Rapids <u>1/</u>	65400	105	Apr-July	64689	57767	46700	62444
	50900	105	Apr-June	49348	48667	37453	48479
Columbia River	113000	109	Apr-Sept	96997	93170	76843	103477
at The Dalles, OR <u>1/</u>	96500	109	Apr-July	82171	79931	65758	88503
	77600	109	Apr-June	65104	68316	55016	71219
PEND OREILLE RIVER SYSTEM							
Pend Oreille River	16300	104	Apr-Sept	13896	13271	11639	15643
bl. Box Canyon	14900	104	Apr-July	13179	12116	11095	14334
	12800	104	Apr-June	11594	10776	10217	12277
KETTLE RIVER SYSTEM							
Kettle River	2100	114	Apr-Sept	2181	1835	1259	1845
nr. Laurier	1930	110	Apr-July	2039	1747	1216	1753
	1750	110	Apr-June	1711	1603	1132	1587
Colville River	150	112	Apr-Sept		116	63	134
at Kettle Falls	140	114	Apr-July		105	58	123
	130	113	Apr-June		97	55	115

1/ Observed flow corrected for storage in any of the following reservoirs which are above the station: Kootenay Lake, Hungry Horse, Flathead Lake, Pend Oreille Lake, F. D. Roosevelt Lake, Lake Chelan, Coeur d'Alene Lake, Brownlee, Noxon Reservoir and pumpage at F. D. Roosevelt Lake.

Basin, Stream and Station	Forecast Runoff 1982	Seasonal Streamflow in Thousands of Acre-Feet					
		%	Fore-	15-Yr.			
		15-yr. Avg.	cast period	1981	1980	1970	Average 63-77
<u>SPOKANE RIVER SYSTEM **</u>							
Spokane River	2900	100	Apr-Sept	2238	2214	2809	2910
at Post Falls, ID <u>2/</u>	2760	101	Apr-July	2145	2046	2757	2733
	2650	102	Apr-June	1960	1904	2678	2600
<u>OKANOGAN RIVER SYSTEM</u>							
Similkameen River	1550	102	Apr-Sept	1241	1479	872	1517
nr. Nighthawk	1430	101	Apr-July	1118	1391	812	1417
	1270	107	Apr-June	930	1247	728	1192
Okanogan River	1800	105	Apr-Sept		1551	909	1718
nr. Tonasket	1660	106	Apr-July	1363	1423	825	1564
	1460	112	Apr-June	1090	1240	730	1304
<u>METHOW RIVER SYSTEM</u>							
Methow River	1110	110	Apr-Sept		996	478	1011
nr. Pateros	1050	112	Apr-July		934	432	937
	890	113	Apr-June		811	382	791
<u>CHELAN RIVER SYSTEM</u>							
Chelan River	1430	115	Apr-Sept	917	1120	753	1238
at Chelan <u>3/</u>	1250	116	Apr-July	812	1020	662	1080
	980	118	Apr-June	647	859	553	834
Stehekin River	980	111	Apr-Sept			566	883
at Stehekin	850	114	Apr-July			477	744
	650	117	Apr-June			387	557
Entiat River	275	114	Apr-Sept		216	134	241
nr. Ardenvoir	250	115	Apr-July		200	120	218
	200	115	Apr-June		172	104	174
<u>WENATCHEE RIVER SYSTEM</u>							
Wenatchee River	1450	112	Apr-Sept			893	1297
at Plain	1310	113	Apr-July			812	1156
	1000	111	Apr-June			704	903
Wenatchee River	1900	108	Apr-Sept	1249	1516	1165	1767
at Peshastin	1750	110	Apr-July	1148	1399	1074	1586
	1400	112	Apr-June	956	1208	938	1250
Stemilt Basin	140*	101	May-Sept				138*
nr. Wenatchee							
Icicle Creek	390	106	Apr-Sept				371
nr. Leavenworth	365	107	Apr-July				342
	300	108	Apr-June				279

* Thousands of Miners' Inches.

** Forecasts made by Jack A. Wilson, Soil Conservation Service, Boise, Idaho.

2/ Observed flow corrected for storage in Coeur d'Alene Lake and diversions by Spokane valley farms Company and Rathdrum Prairie Canals.

3/ Observed flow corrected for storage in Lake Chelan.

Basin, Stream and Station	Forecast Runoff 1982	Seasonal Streamflow in Thousands of Acre-Feet					
		% 15-yr. Avg.	Fore cast period	1981	1980	1979	15-yr. Average 63-77
YAKIMA RIVER SYSTEM							
Yakima River	150	104	Apr-Sept	95	115	124	144
nr. martin <u>4/</u>	140	105	Apr-July	82	103	114	133
	115	101	Apr-June	73	95	101	114
Yakima River	990	102	Apr-Sept	700	792	714	975
at Cle Elum <u>5/</u>	900	102	Apr-July	643	716	683	882
	780	104	Apr-June	563	646	599	750
Yakima River	2200	102	Apr-Sept	1194	1833	1388	2168
nr. Parker <u>6/</u>	1990	102	Apr-July	1059	1733	1287	1954
	1760	104	Apr-June	961	1610	1179	1693
Kachess River	130	103	Apr-Sept	81	111	101	126
nr. Easton <u>7/</u>	125	105	Apr-July	72	105	95	119
	105	102	Apr-June	66	91	88	103
Cle Elum River	500	104	Apr-Sept	313		348	479
nr. Roslyn <u>8/</u>	450	103	Apr-July	282	350	326	435
	370	103	Apr-June	244	314	292	358
Bumping River	150	103	Apr-Sept	78	129	99	146
nr. Nile <u>9/</u>	140	106	Apr-July	70	120	92	132
	110	104	Apr-June	63	111	82	106
American River	130	102	Apr-Sept			81	127
nr. Nile	120	103	Apr-July			74	116
	100	105	Apr-June			66	95
Tieton River	270	108	Apr-Sept	148	224	179	252
at Tieton Dam <u>10/</u>	225	106	Apr-July	131	192	148	212
	185	110	Apr-June	108	166	120	168
Naches River	910	102	Apr-Sept	419	729	574	893
nr. Naches <u>11/</u>	830	105	Apr-July	380	694	528	806
	700	103	Apr-June	339	638	478	678
Ahtanum Creek	50	106	Apr-Sept				47
nr. Tampico <u>12/</u>	45	107	Apr-July				42
	40	108	Apr-June				37

4/ Observed flow corrected for storage in Lake Keechelus.

5/ Observed flow corrected for storage in Keechelus, Kachess, and Cle Elum Lakes and diversion by Kittitas Canal.

6/ Observed flow corrected for storage in Keechelus, Kachess, Cle Elum, Bumping, and Rimrock Lakes and diversions by Roza, Union Gap, New Reservation, Old Reservation, and Sunnyside Canals.

7/ Observed flow corrected for storage in Lake Kachess.

8/ Observed flow corrected for storage in Lake Cle Elum.

9/ Observed flow corrected for storage in Bumping Lake.

10/ Observed flow corrected for storage in Rimrock Lake.

11/ Observed flow corrected for storage in Bumping and Rimrock Lakes and diversions by Tieton, Selah Valley, Wapatox Canals, and City of Yakima.

12/ Observed flow of North and South Forks (Combined).

Basin, Stream and Station	Forecast Runoff 1982	Seasonal Streamflow in Thousands of Acre-Feet					
		% 15-yr. Avg.	Fore- cast period	1981	1980	1979	15-yr. Average 63-77
<u>LOWER COLUMBIA RIVER SYSTEM</u>							
Mill Creek	23.9	136	Apr-Sept			22.37	17.50
at Walla Walla	23.7	137	Apr-July			22.25	17.33
	23.4	136	Apr-June			22.14	17.15
Lewis River	1500	116	Apr-Sept	1096	1001	962	1298
at Ariel <u>13/</u>	1300	115	Apr-July	971	883	830	1128
	1140	115	Apr-June	865	798	749	992
Cowlitz River	2200	103	Apr-Sept		1626	1563	2126
bl. Mayfield Dam	1960	106	Apr-July		1432	1367	1854
	1650	106	Apr-June		1275	1203	1553
Cowlitz River	3000	108	Apr-Sept	2390	1976	2046	2766
at Castle Rock <u>14/</u>	2600	108	Apr-July	2125	1852	1792	2401
	2170	107	Apr-June	1875	1649	1574	2029
<u>OLYMPIC PENINSULA</u>							
<u>DUNGENESS RIVER SYSTEM</u>							
Dungeness River	170	106	Apr-Sept			110	160
nr. Sequim	140	108	Apr-July			90	130
	105	109	Apr-June			71	96
<u>PUGET SOUND</u>							
<u>SKAGIT RIVER SYSTEM</u>							
Skagit River	2500	98	Feb-Aug			1785	2532
at Newhalem <u>15/</u>	2380	101	Apr-Sept			1648	2356
	2010	102	Apr-July			1359	1972
	1515	102	Apr-June			1102	1485
<u>GREEN RIVER SYSTEM</u>							
Green River	310	98	Apr-Sept				316
bl. Howard Hanson Dam <u>16/</u>	280	98	Apr-July				284
	255	100	Apr-June				256

- 13/ Observed flow corrected for storage in Lake Merwin, Yale, and Swift Reservoirs.
14/ Observed flow corrected for storage in Mayfield Reservoir.
15/ Observed flow corrected for storage in Diablo, Ross, and Gorge Reservoirs.
16/ Observed flow corrected for storage in Howard Hanson Dam.

COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

The following tabulation of Washington stream basins presents the water content of the snow about February 1, 1982, as percent of the same date in 1981 and 1980 and average of record.

Tributary Basin	No. of Courses Average	1982 Snow Water Expressed as percent of		
		1981	1980	1963-77 Avg.
<u>UPPER COLUMBIA BASIN</u>				
Pend Oreille	11	259	119	97
Kettle	15	205	207	117
Colville	5	262	118	96
Spokane	6	1178	158	97
Okanogan	27	299	159	106
Methow	6	190	123	104
Chelan	5	244	147	114
Entiat	11	195	119	98
Wenatchee	10	752	143	111
Yakima	24	612	162	118
Ahtanum	2	340	108	132
<u>LOWER COLUMBIA BASIN</u>				
Mill Creek	3	1217	173	145
Klickitat	1	843	179	133
Lewis	3	-	-	129
Cowlitz	2	562	154	109
<u>PUGET SOUND</u>				
White	2	377	184	153
Green	9	755	184	116
Snoqualmie	1	1340	258	123
Skykomish	2	818	148	108
Skagit	14	594	142	97
<u>OLYMPIC PENINSULA</u>				
Elwha	1	2170	258	93
Dungeness	1	2325	179	122

RESERVOIR STORAGE - 1000 Acre Feet

BASIN OR STREAM	RESERVOIR	USABLE 1/ CAPACITY	Measured (February)			
			1982	1981	1980	Normal*
<u>COLUMBIA</u>						
Spokane	Coeur d'Alene Lake	225.1	72.2	180.0	54.9	145.3
Columbia	Franklin D. Roosevelt Lake	5232.0	4961.6	4726.9	3063.5	3698.2
Columbia	Banks Lake	714.9	704.2	120.8	690.9	619.4
Okanogan	Conconully Reservoir	13.0	9.1	6.8	3.0	6.2
Okanogan	Conconully Lake	10.5	8.9	10.4	8.3	7.6
Chelan	Lake Chelan	676.1	319.9	481.3	255.7	294.2
<u>YAKIMA</u>						
Yakima	Keechelus Lake	157.8	82.1	113.8	67.4	97.6
Kachess	Kachess Lake	239.0	148.0	179.2	67.9	173.4
Cle Elum	Lake Cle Elum	436.9	57.6	220.9	361.7	259.7
Bumping	Bumping Lake	33.7	4.0	17.0	9.2	7.8
Tieton	Rimrock Lake	198.0	116.1	170.5	54.6	118.0
<u>PUGET SOUND</u>						
Skagit	Ross Reservoir	1404.1	942.9	1293.9	845.8	1012.6
Skagit	Diablo Reservoir	90.6	84.0	87.6	87.9	84.2
Skagit	Gorge Reservoir	9.8	7.9	7.9	7.1	7.9

1/ Based on Active Storage

* 15-yr. Average 1963-1977

PRECIPITATION 1/
Division Average Observations and Departures

Drainage Divisions	FALL		WINTER	
	Sept-Oct Observed	1981 <u>2/</u> Departure	Nov. 1981 - Observed	Jan. 1982 <u>2/</u> Departure
Columbia in Canada	5.17	+0.15	10.34	+0.06
Pend Oreille - Spokane	3.56	-0.48	11.65	-0.53
Northeastern Washington	3.28	+0.80	6.61	-0.10
Southeastern Washington	3.03	+0.52	8.06	+1.00
East Slope Cascades	4.87	+0.12	21.20	+1.17
North Central Washington	2.61	+1.02	5.01	+0.17
Northwest Slope Cascades	13.88	+0.67	37.63	-0.30
Southwest Slope Cascades	9.98	+1.30	29.04	+0.13

Northeastern Washington	- Lower Spokane, Colville, Sanpoil, and Lower Kettle Drainages.
Southeastern Washington	- Touchet, Tucannon, and Palouse Drainages.
East Slope Cascades	- Yakima, Wenatchee and Chelan Drainages.
North Central Washington	- Methow and Okanogan Drainages.
Northwest Slope Cascades	- Puget Sound Drainages.
Southwest Slope Cascades	- Lower Columbia Drainages.

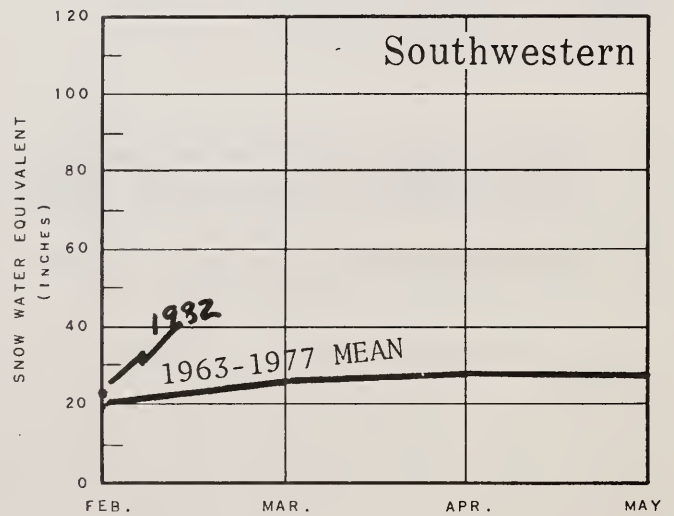
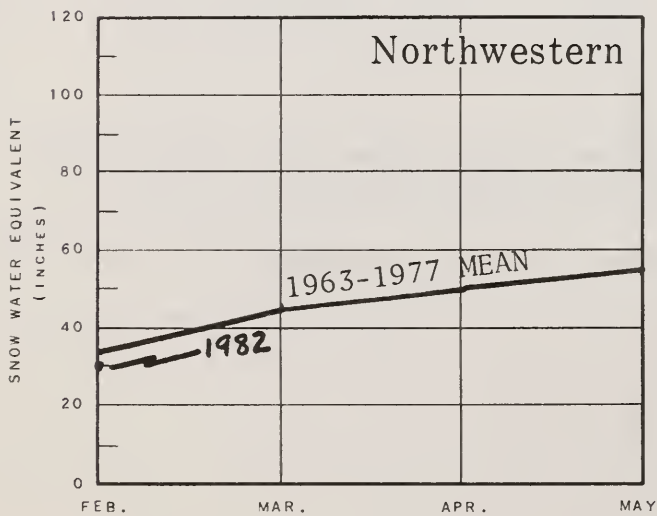
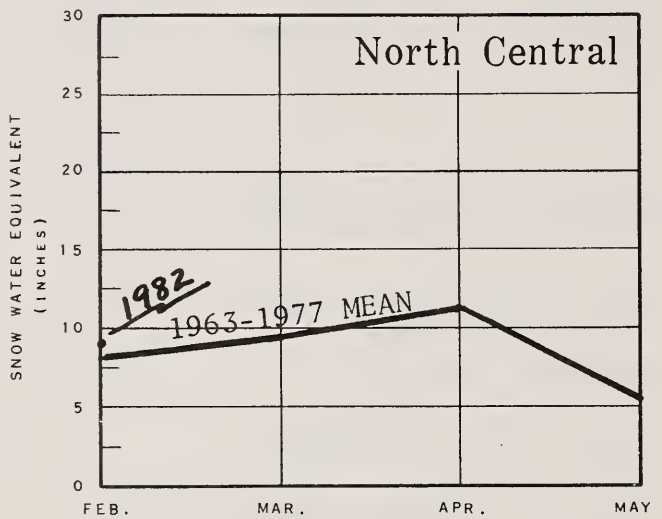
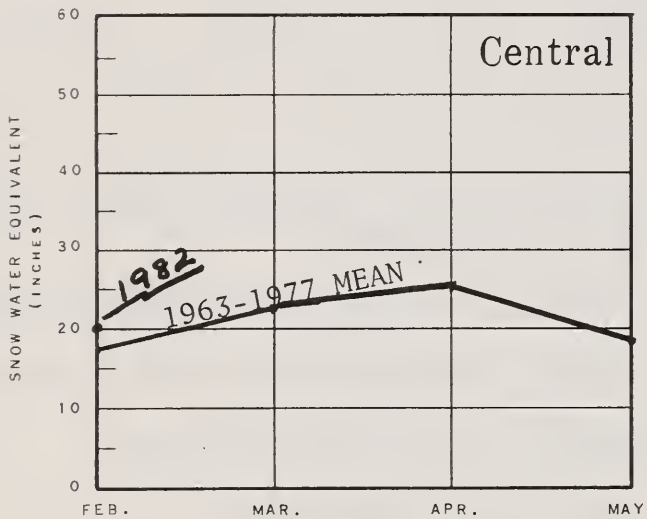
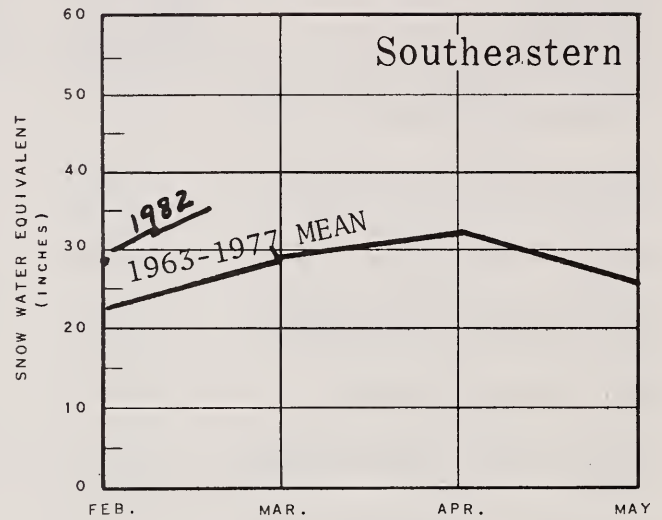
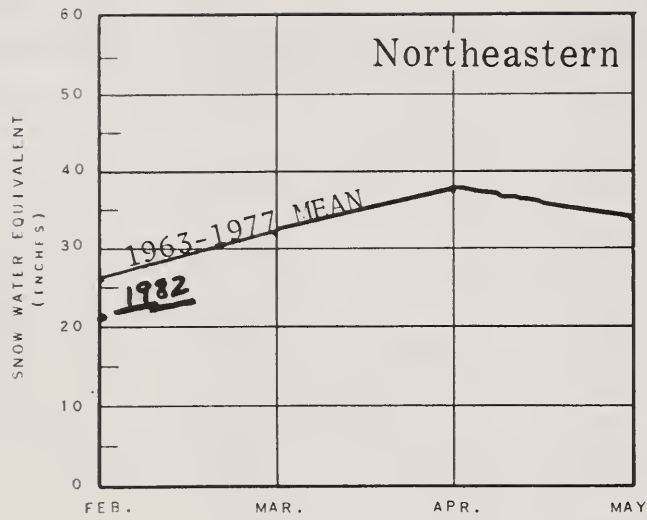
1/ - Preliminary analysis by National Weather Service from data furnished by Meteorological Services of Canada and the National Weather Service.

2/ - Departure from 15-year (1958-72) drainage division average.

WASHINGTON SNOW COVER

1982

DRAINAGE AREAS

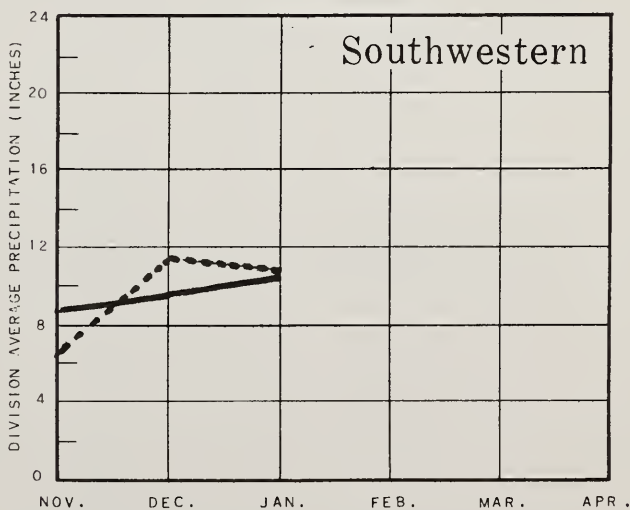
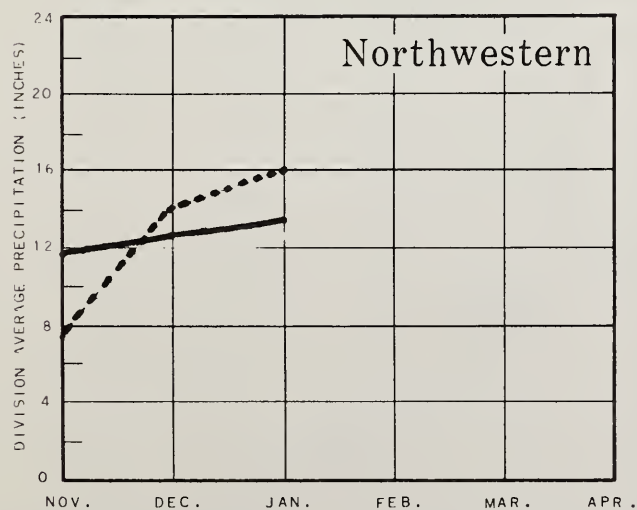
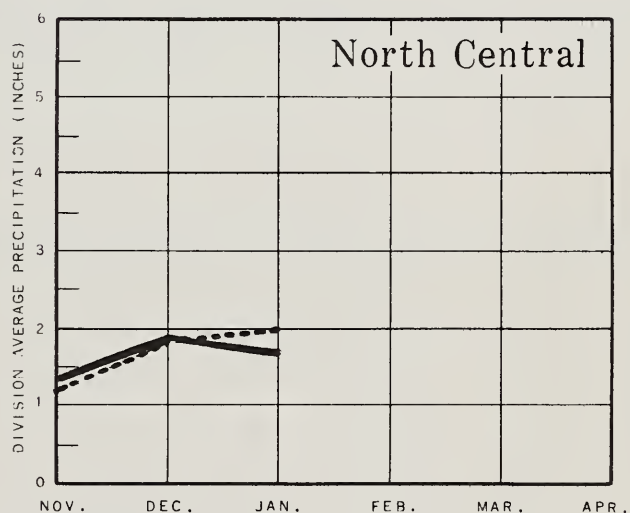
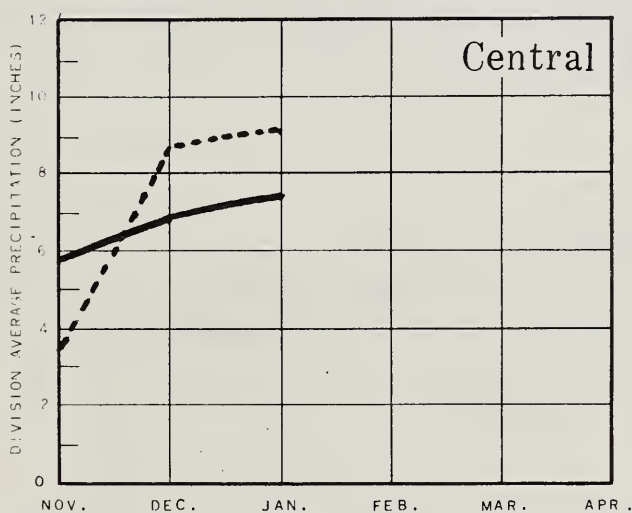
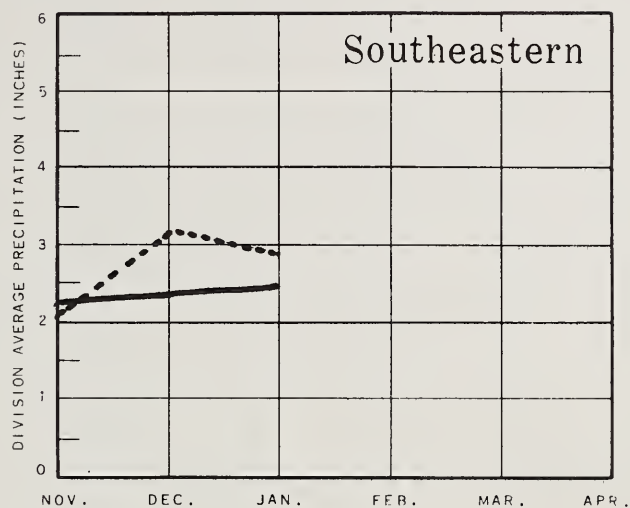
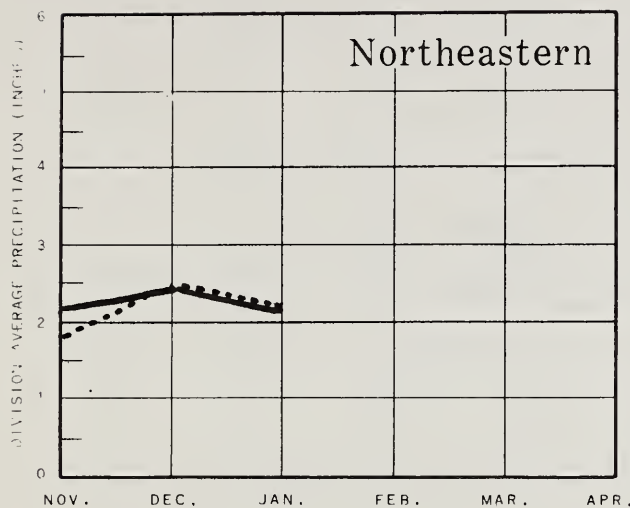


Selected Snow Survey Courses by Soil Conservation Service

WASHINGTON VALLEY PRECIPITATION

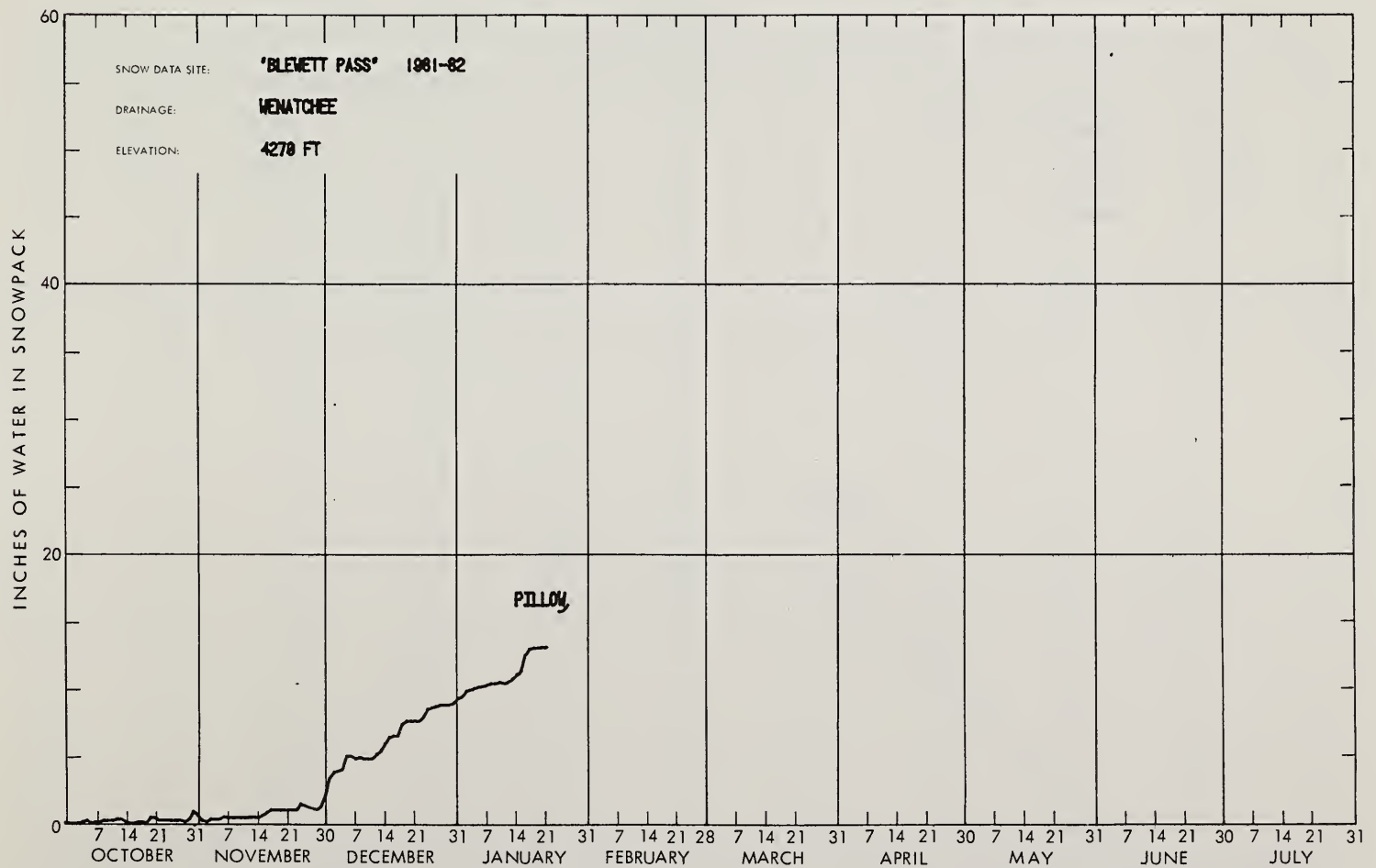
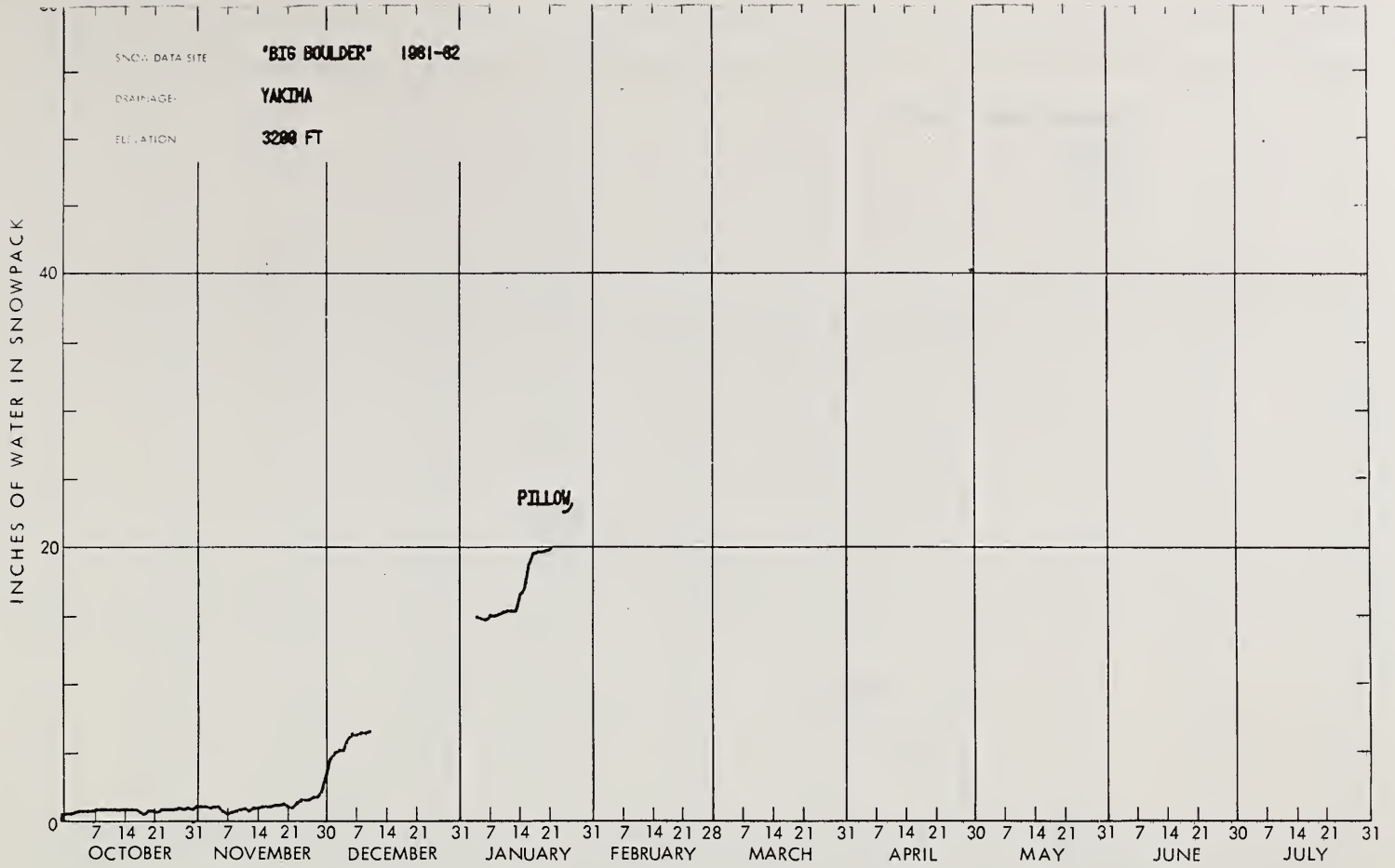
1982

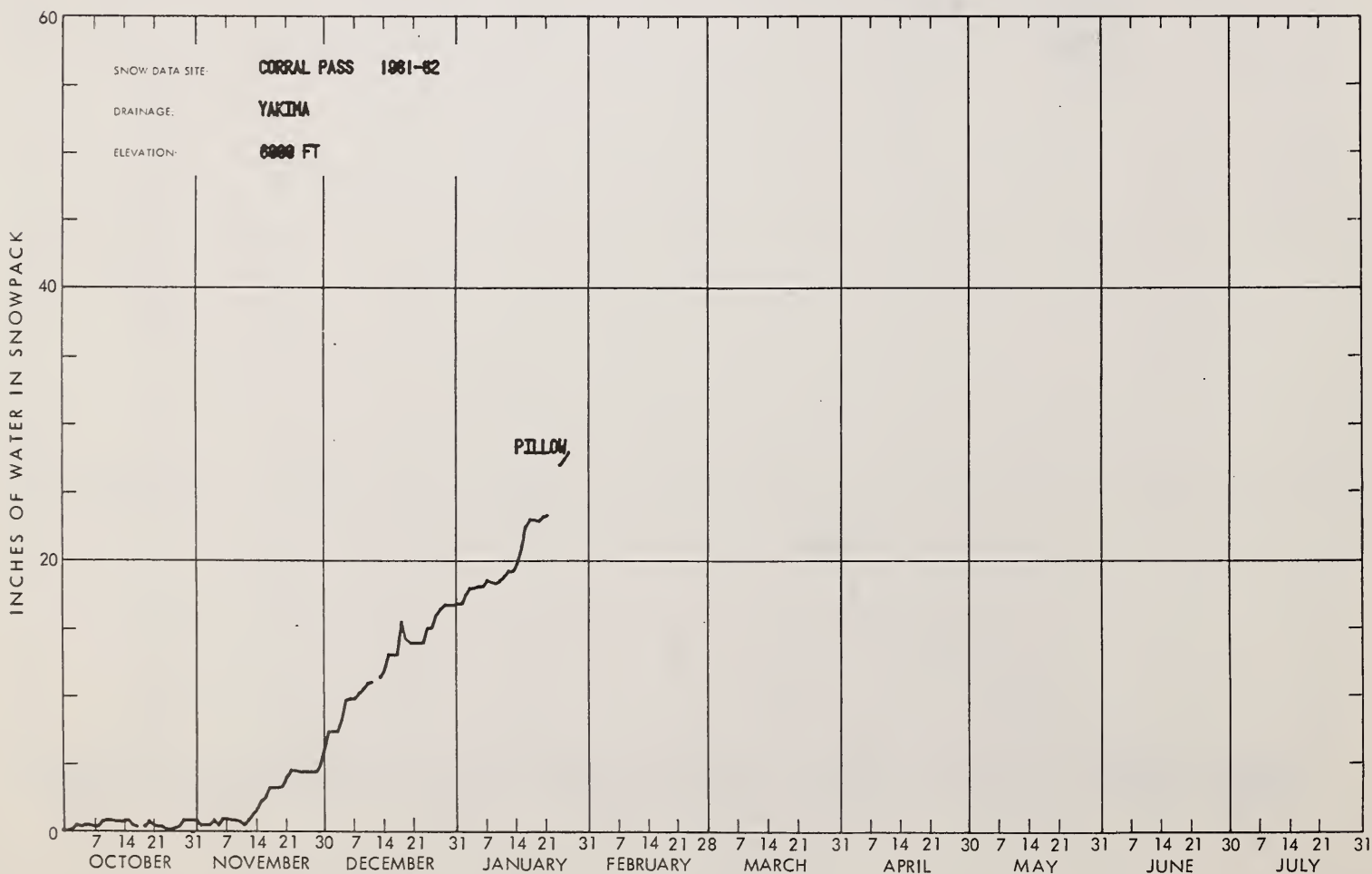
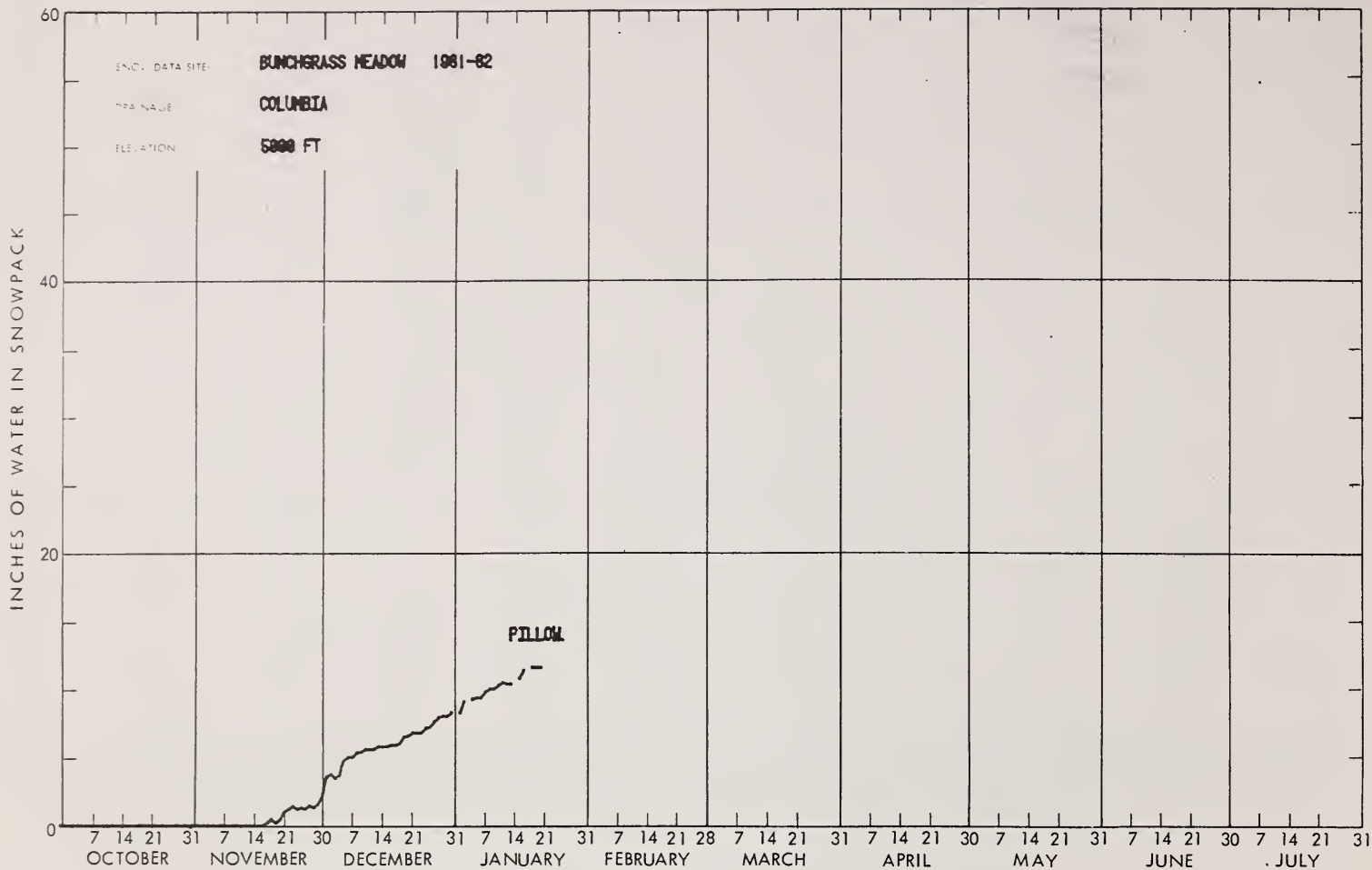
DRAINAGE AREAS

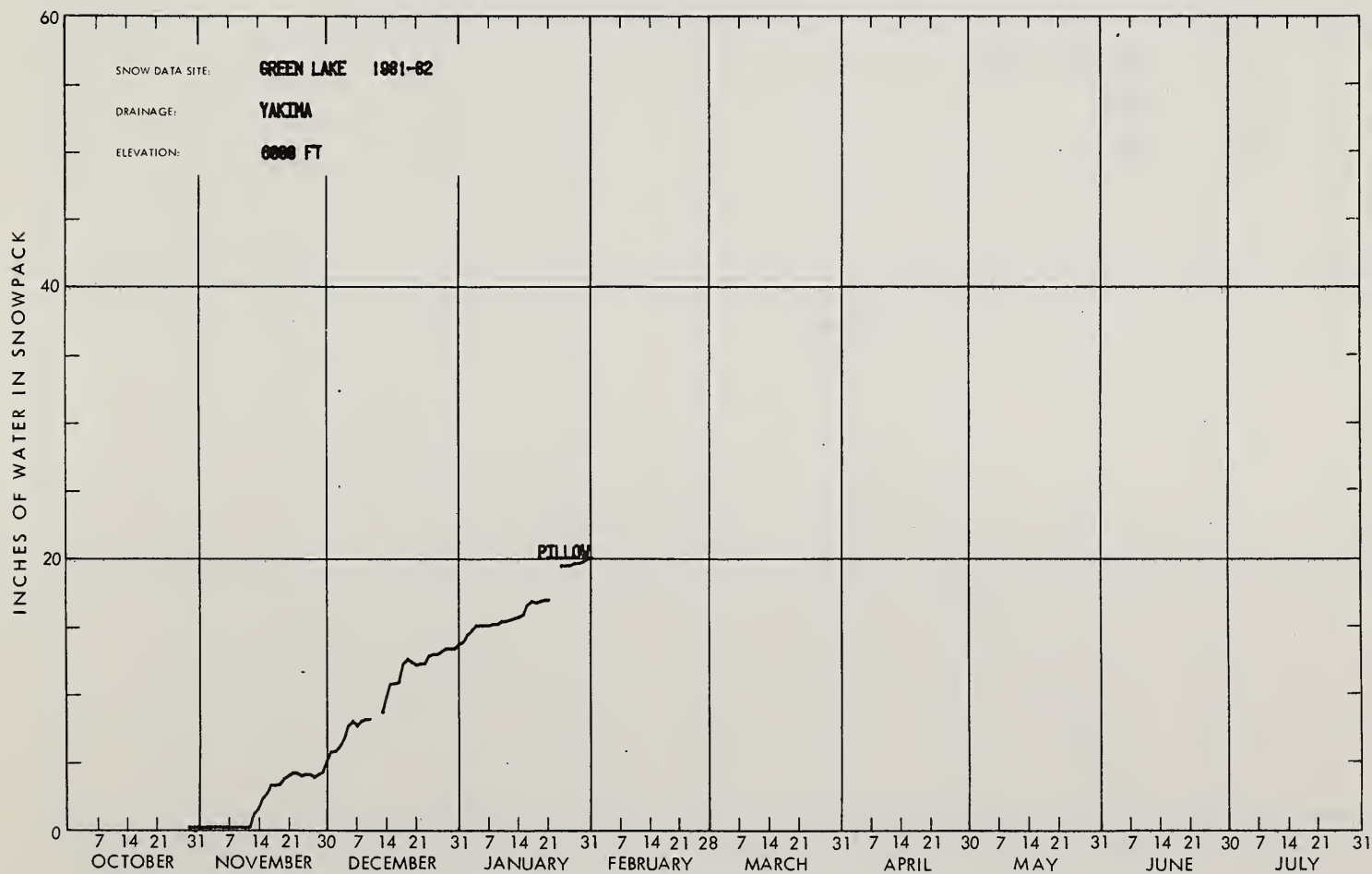
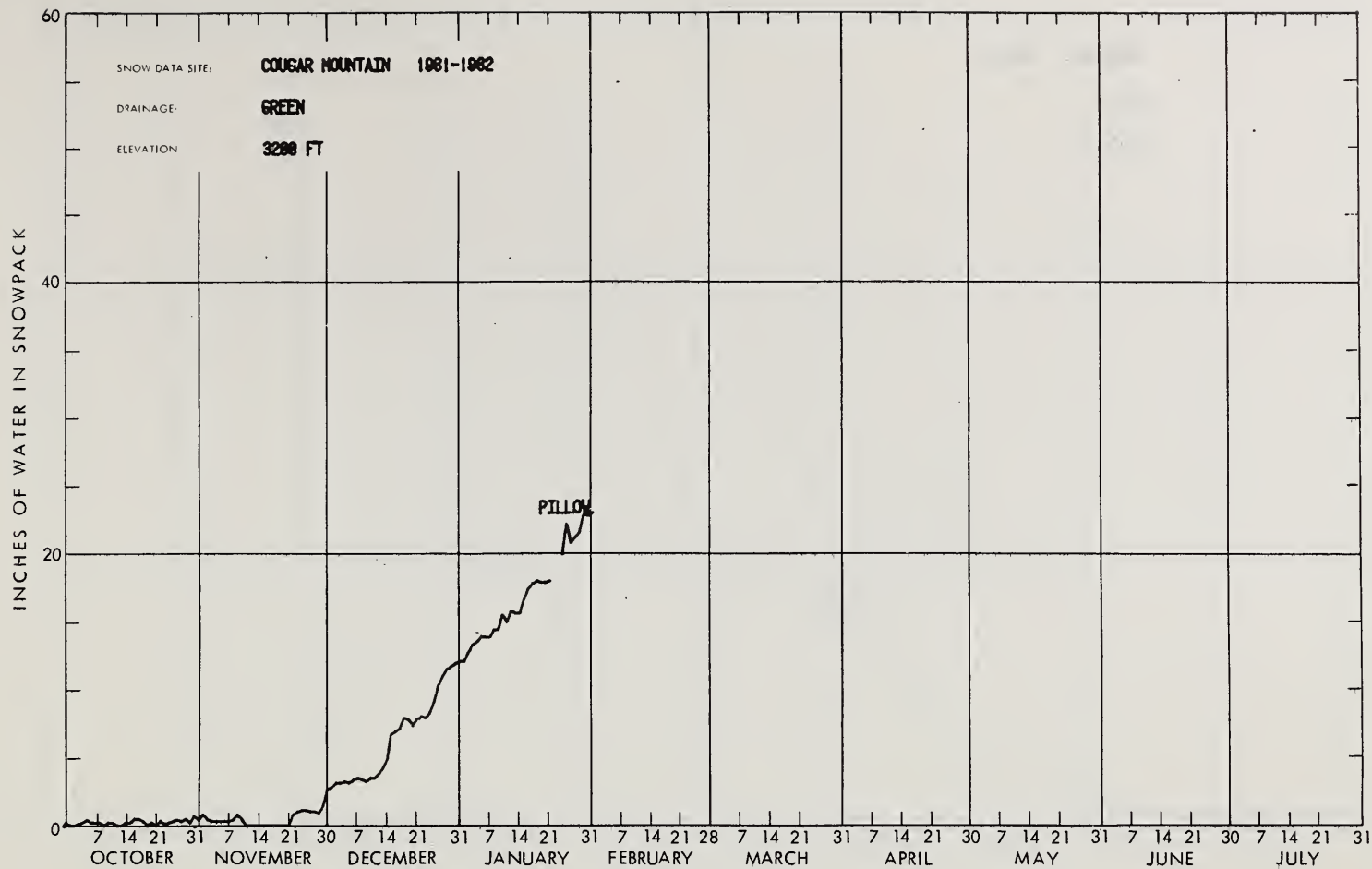


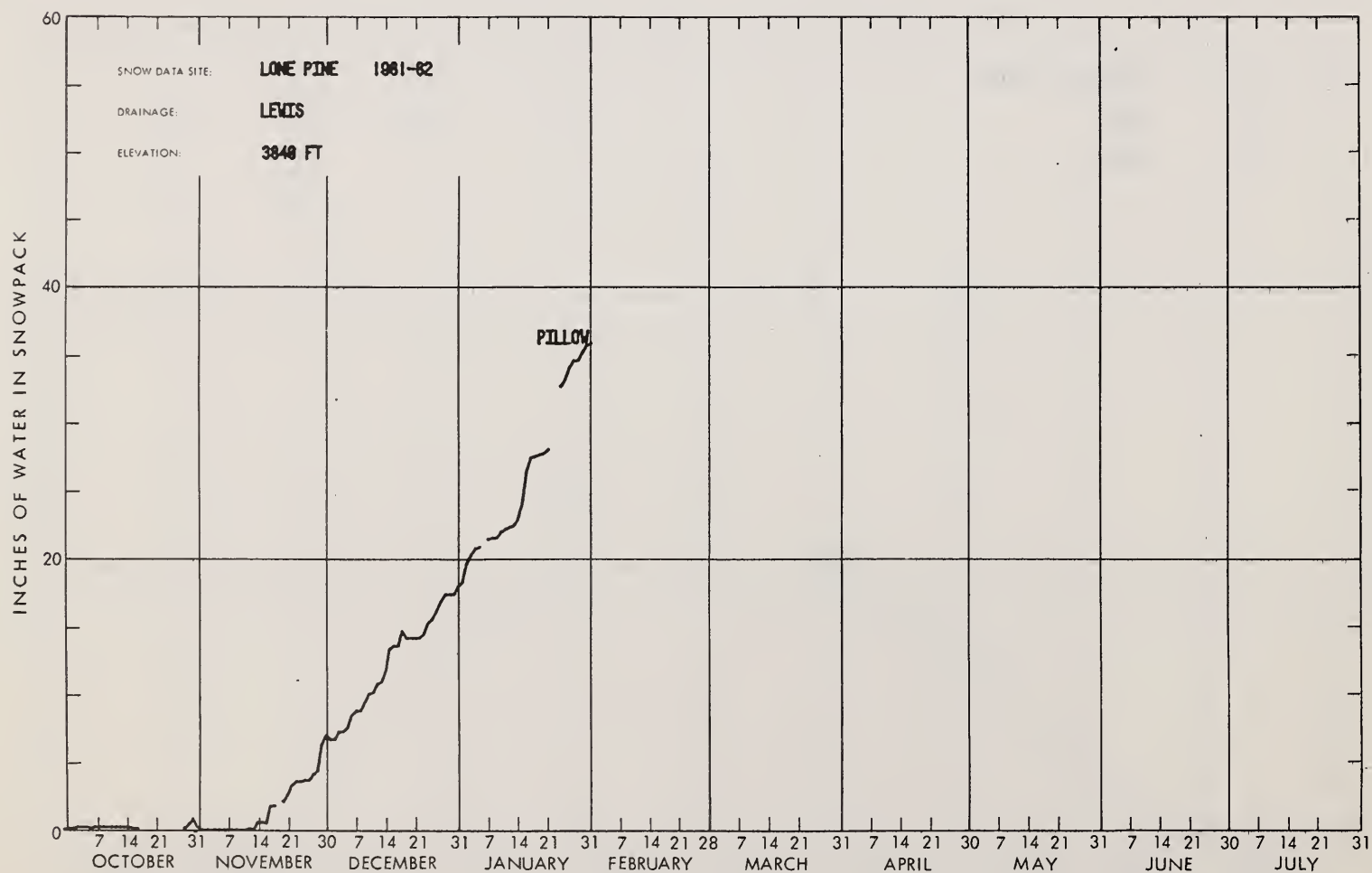
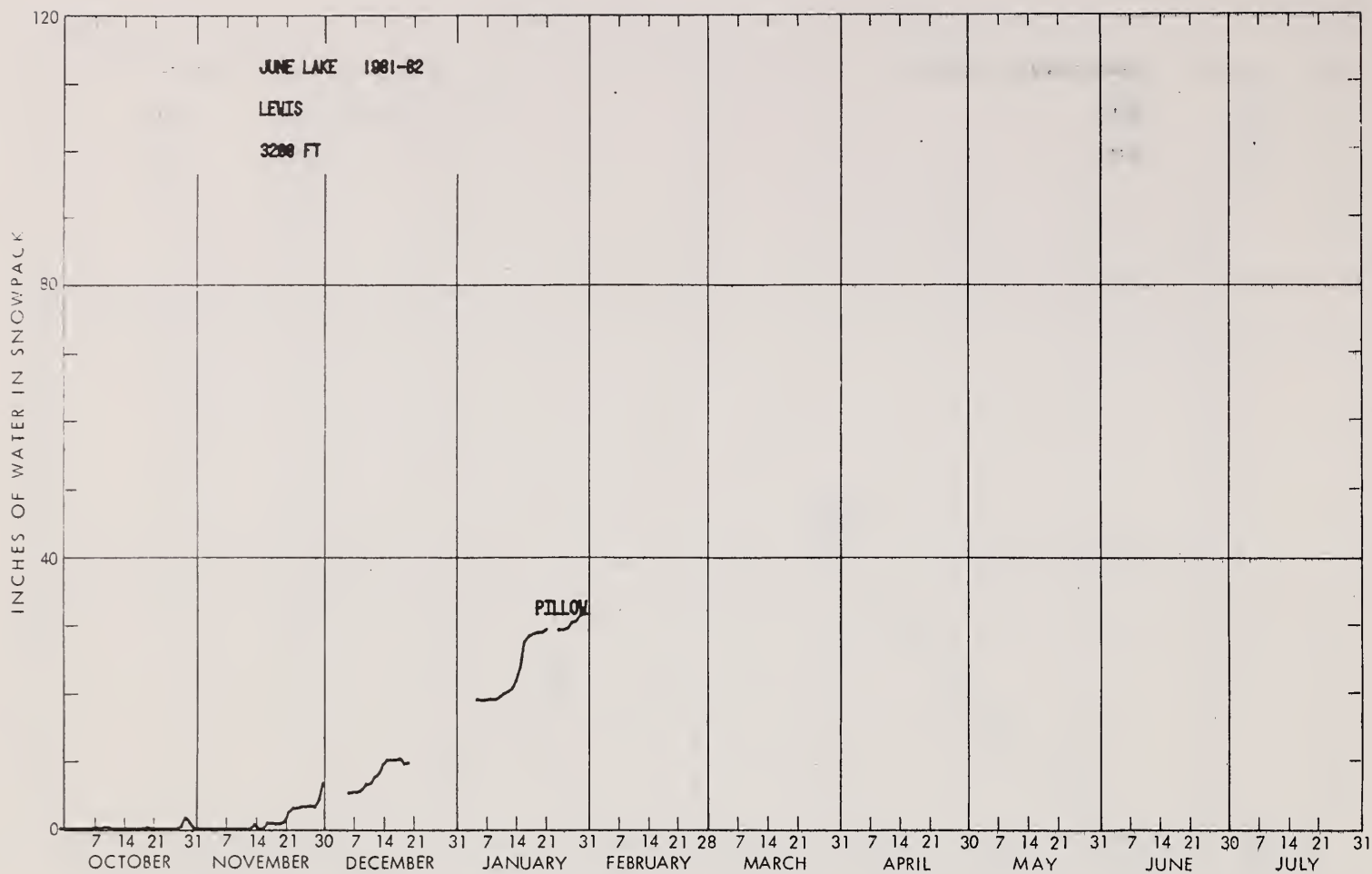
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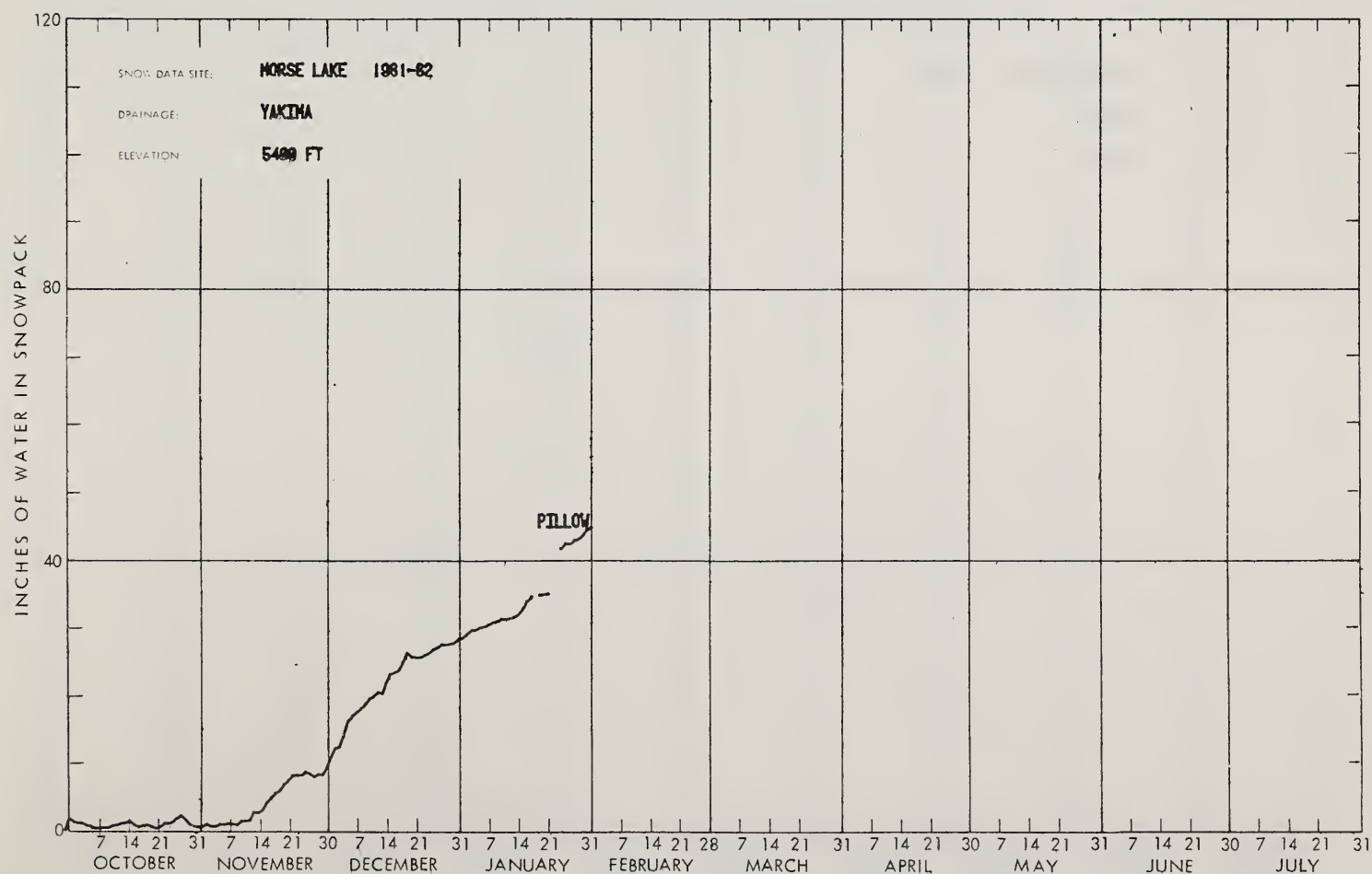
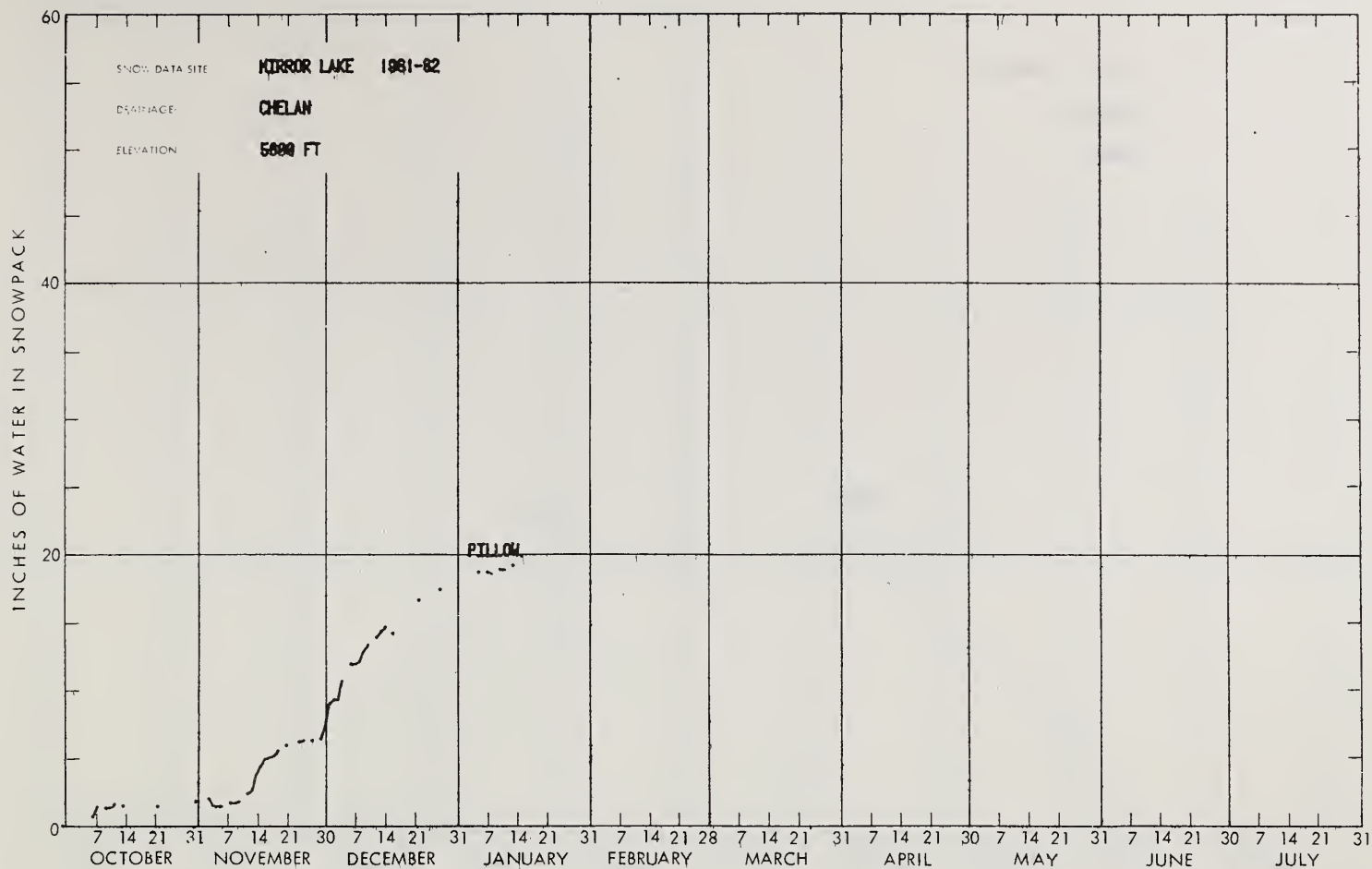
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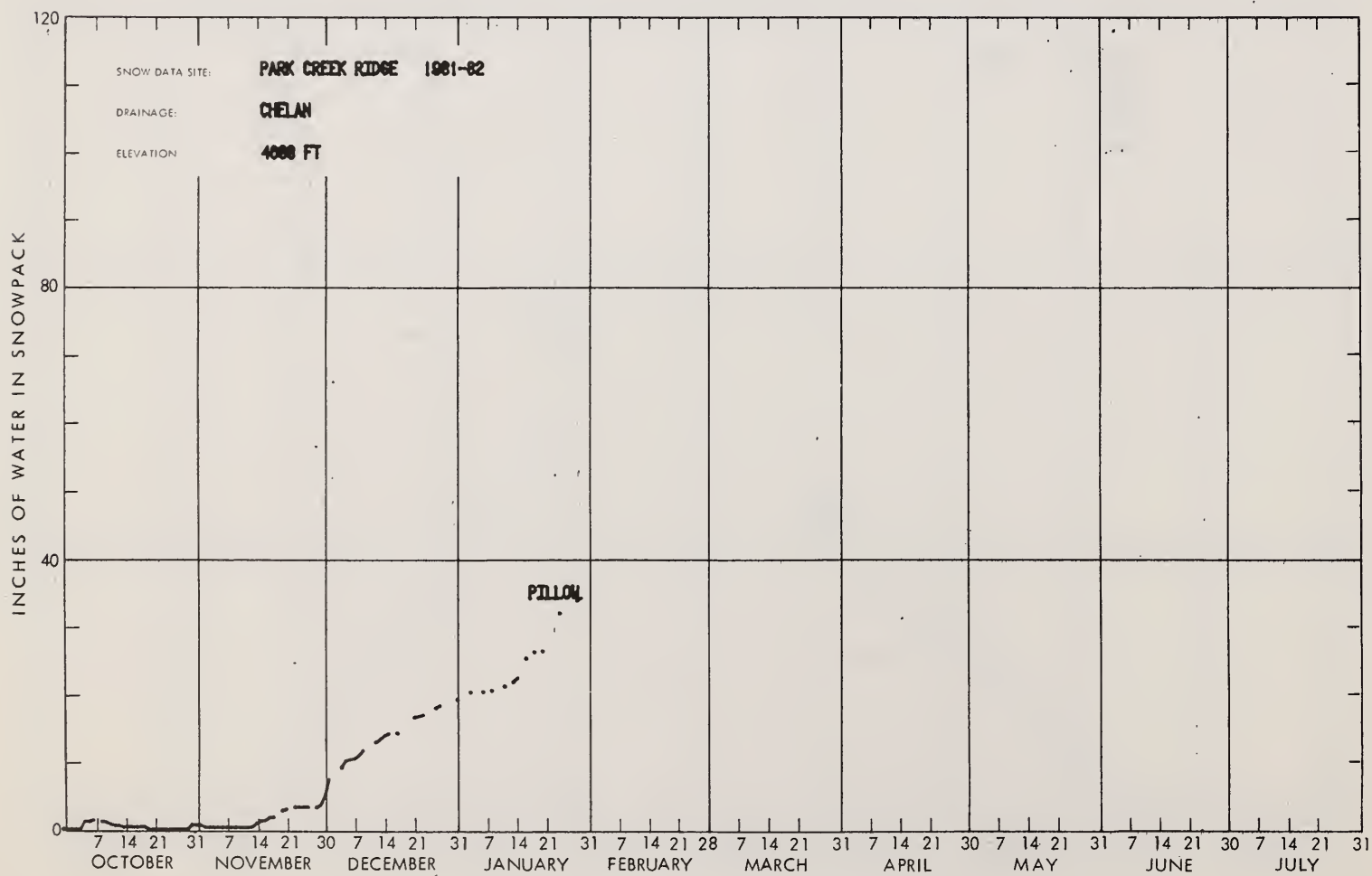
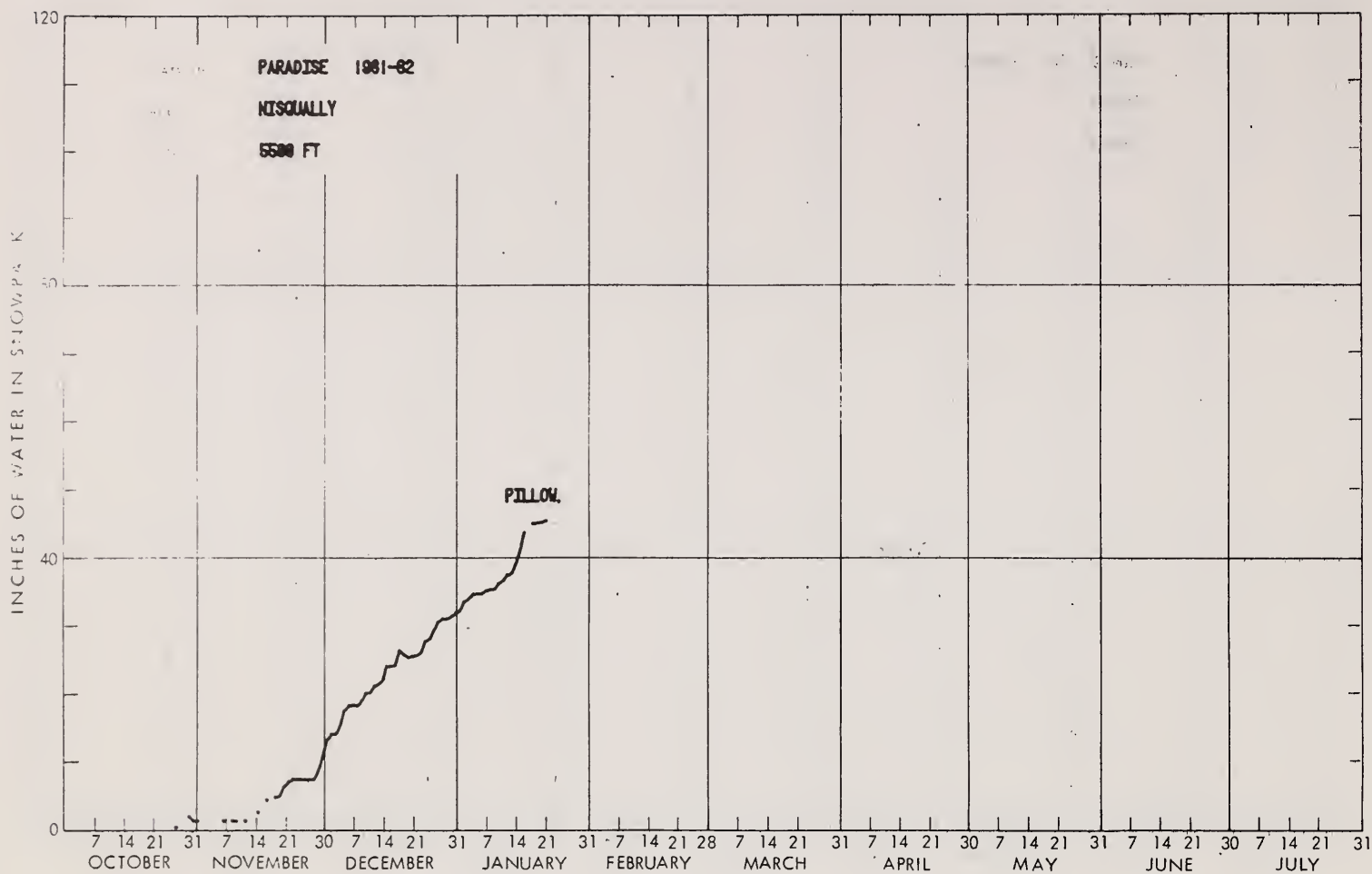


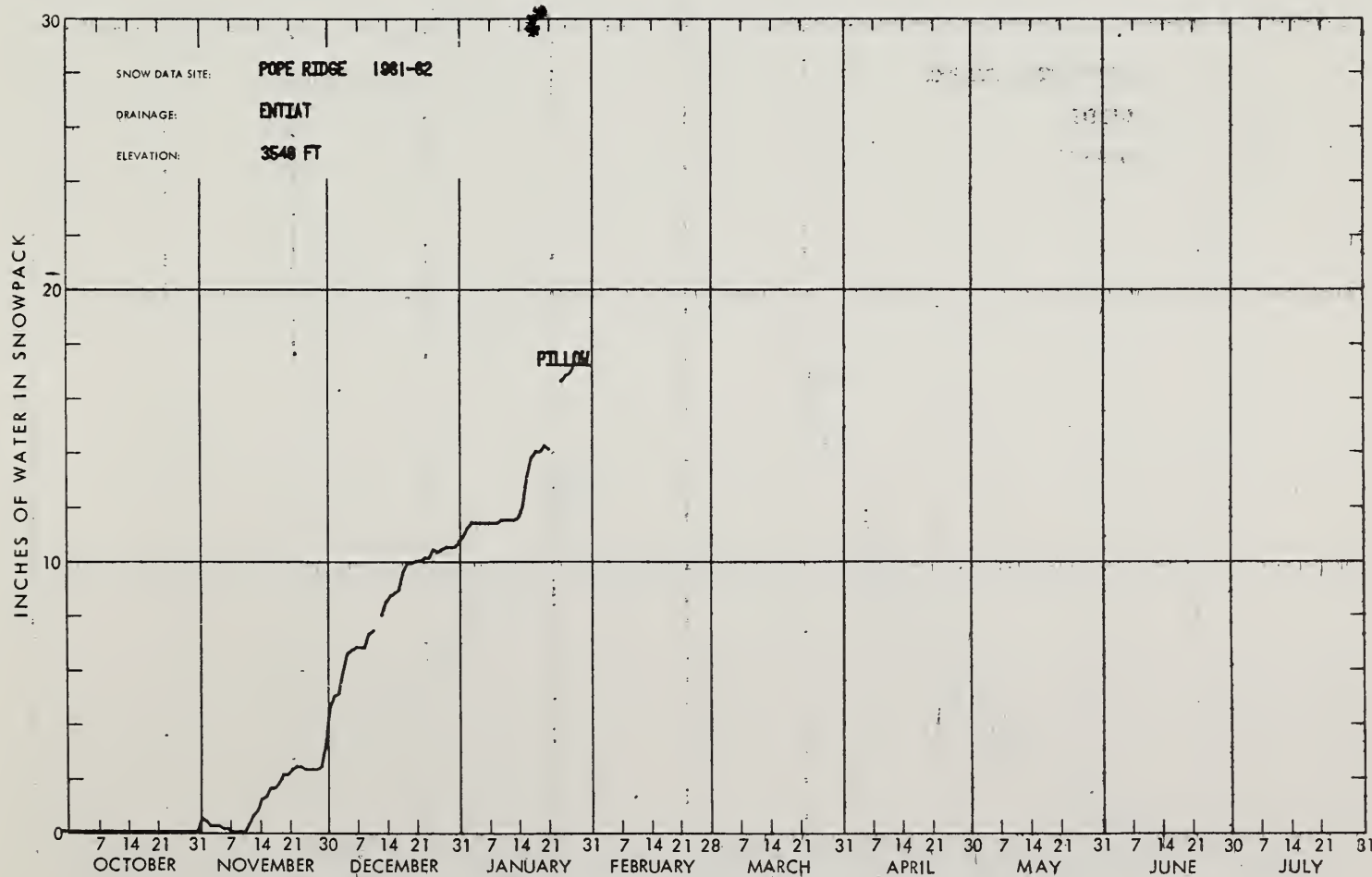
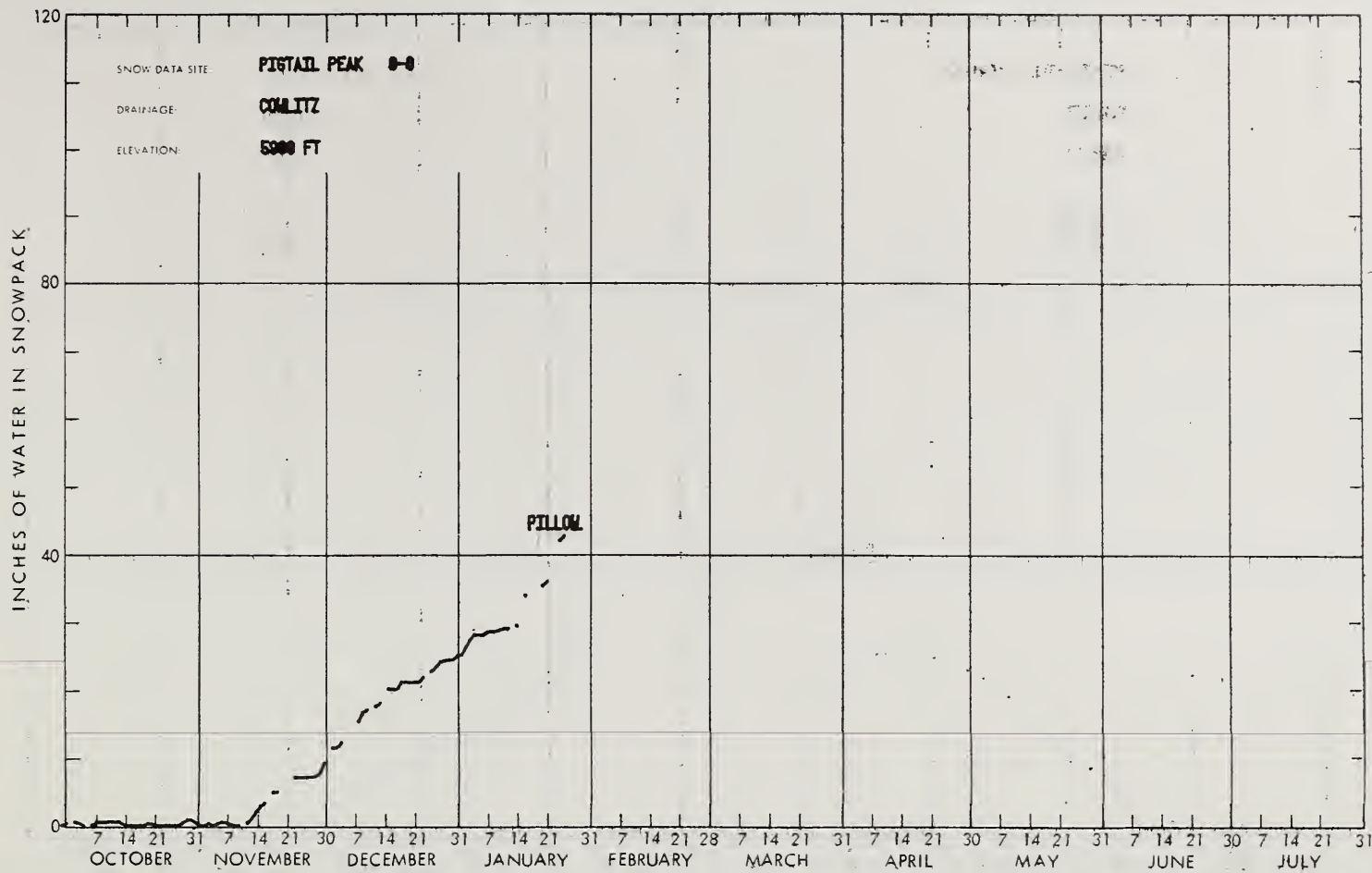


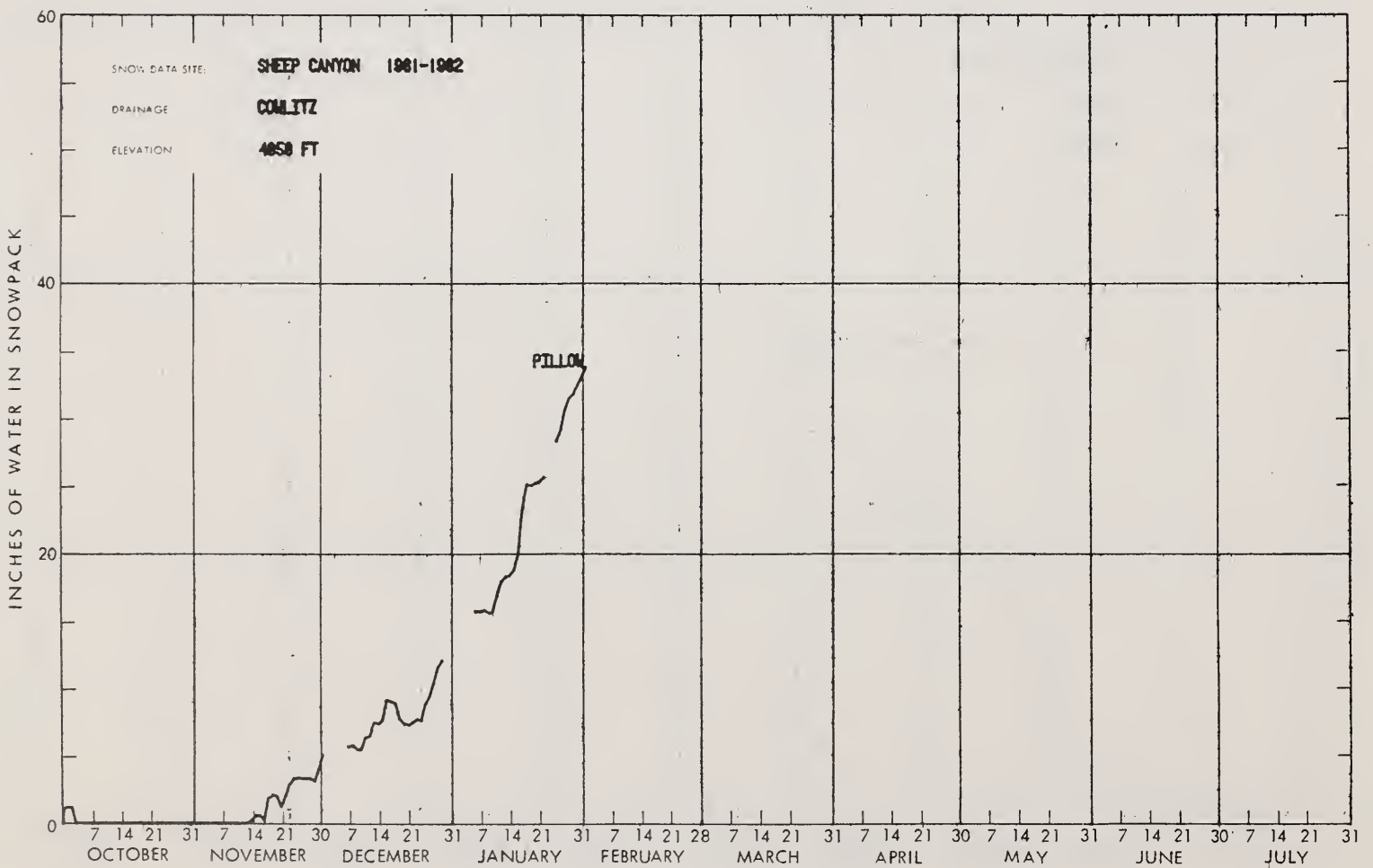
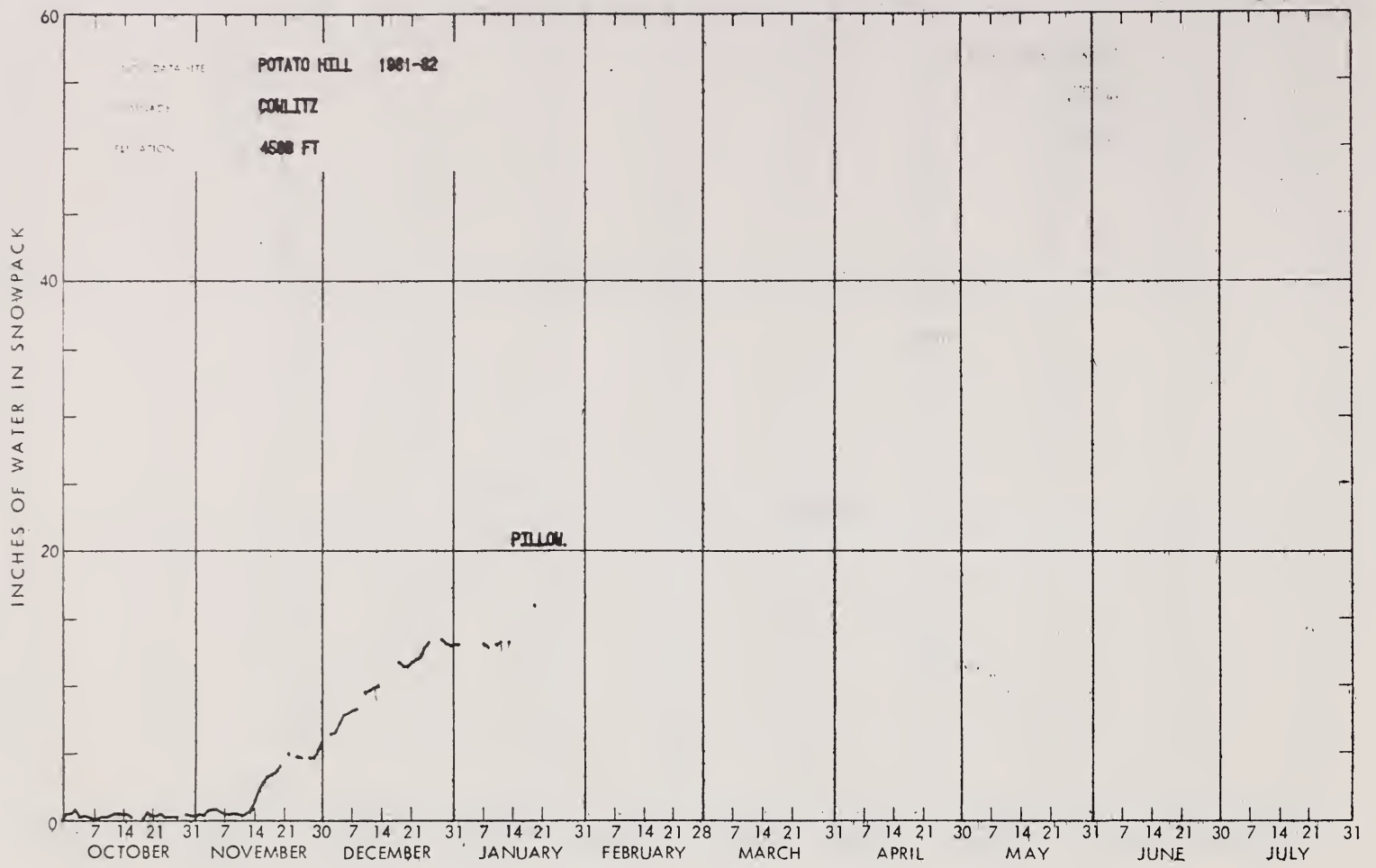


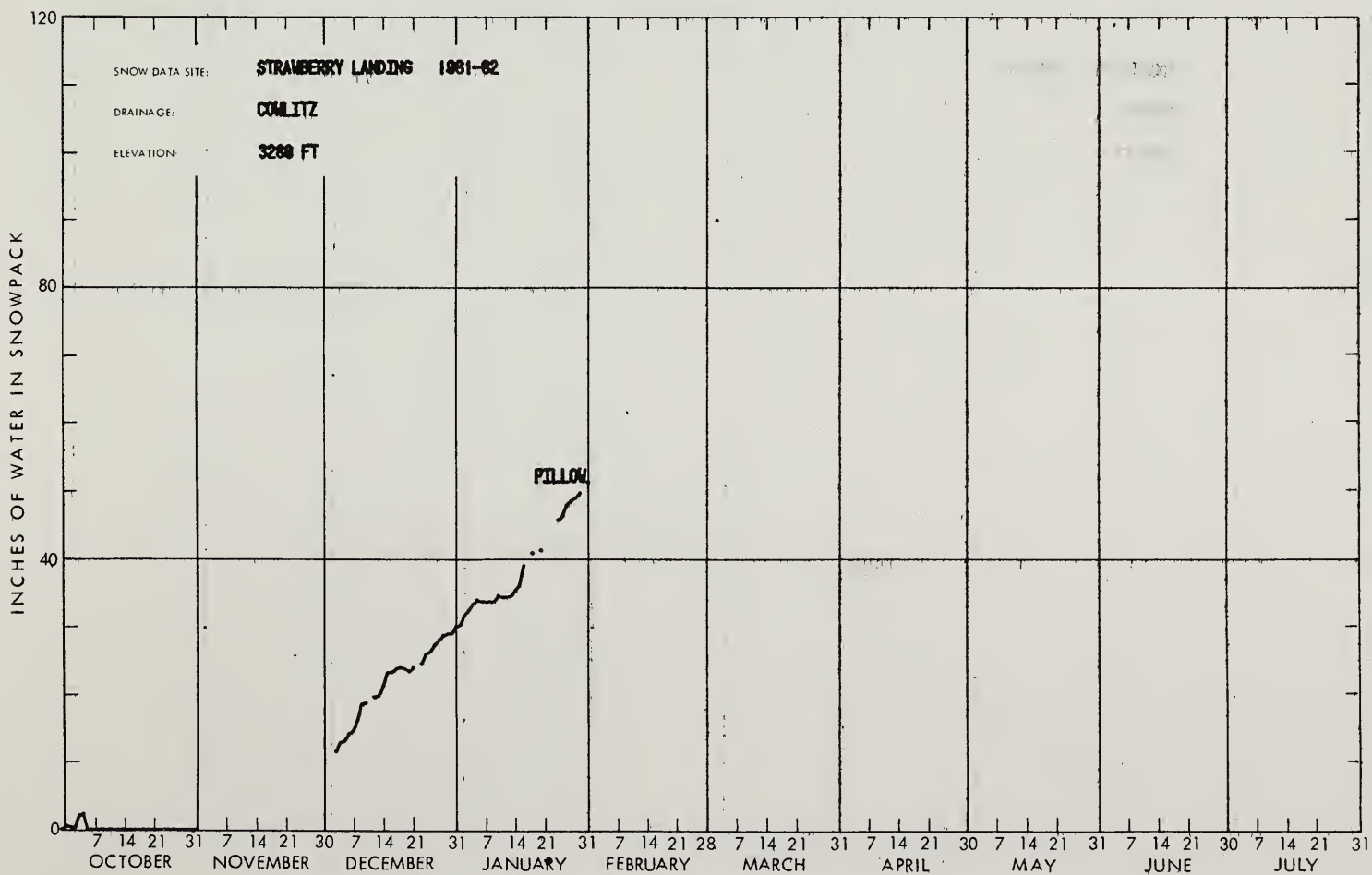
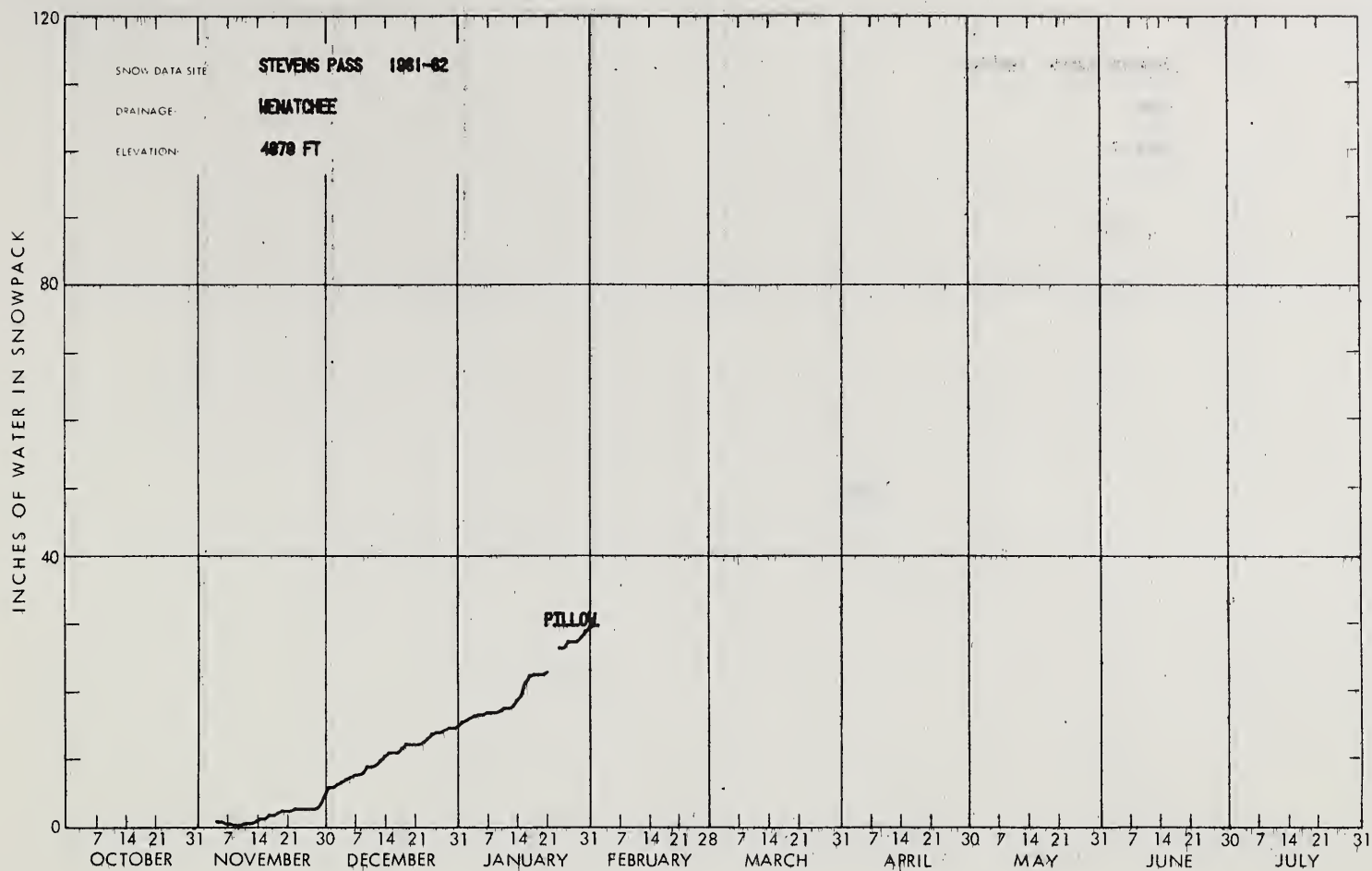


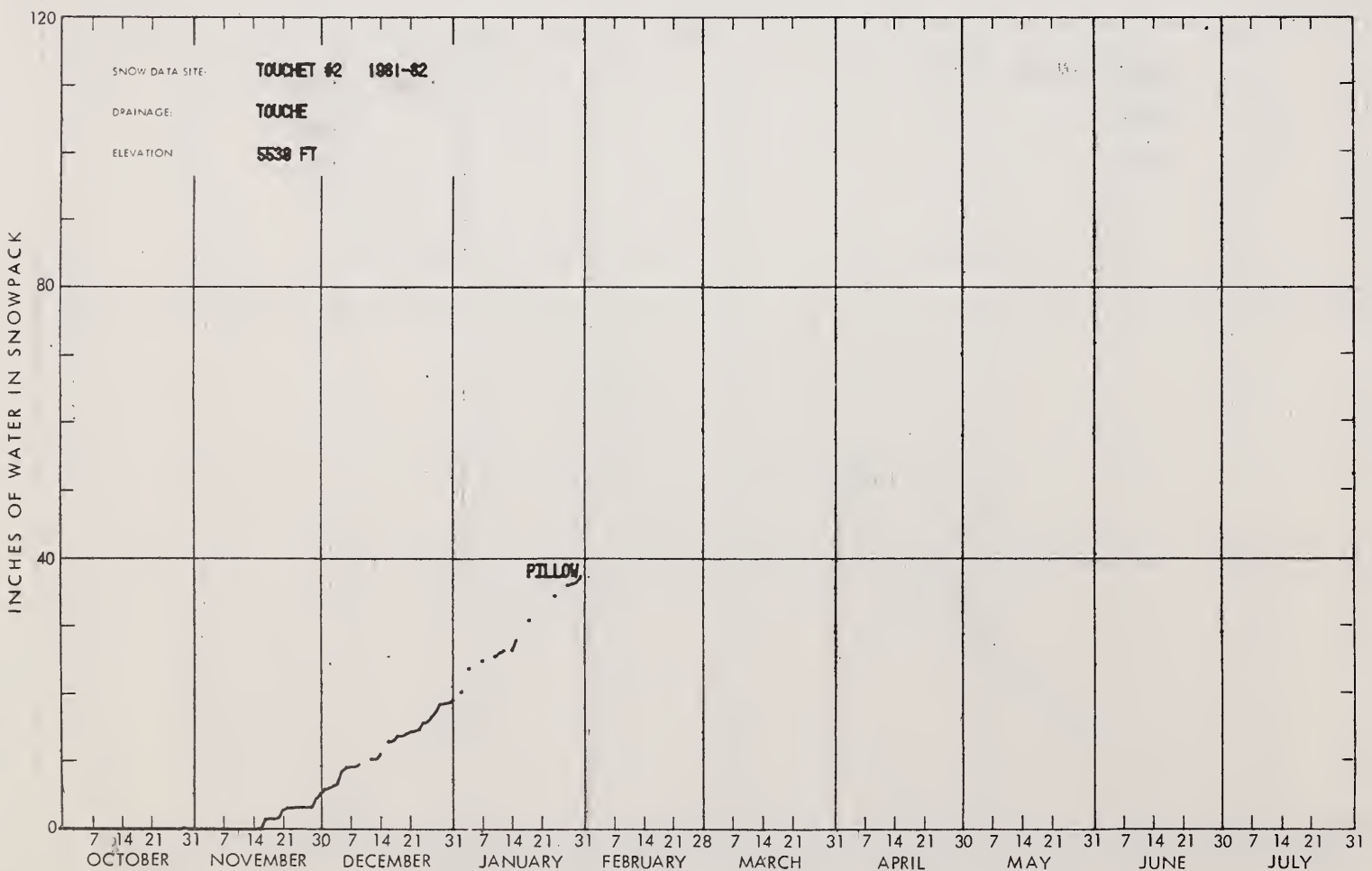
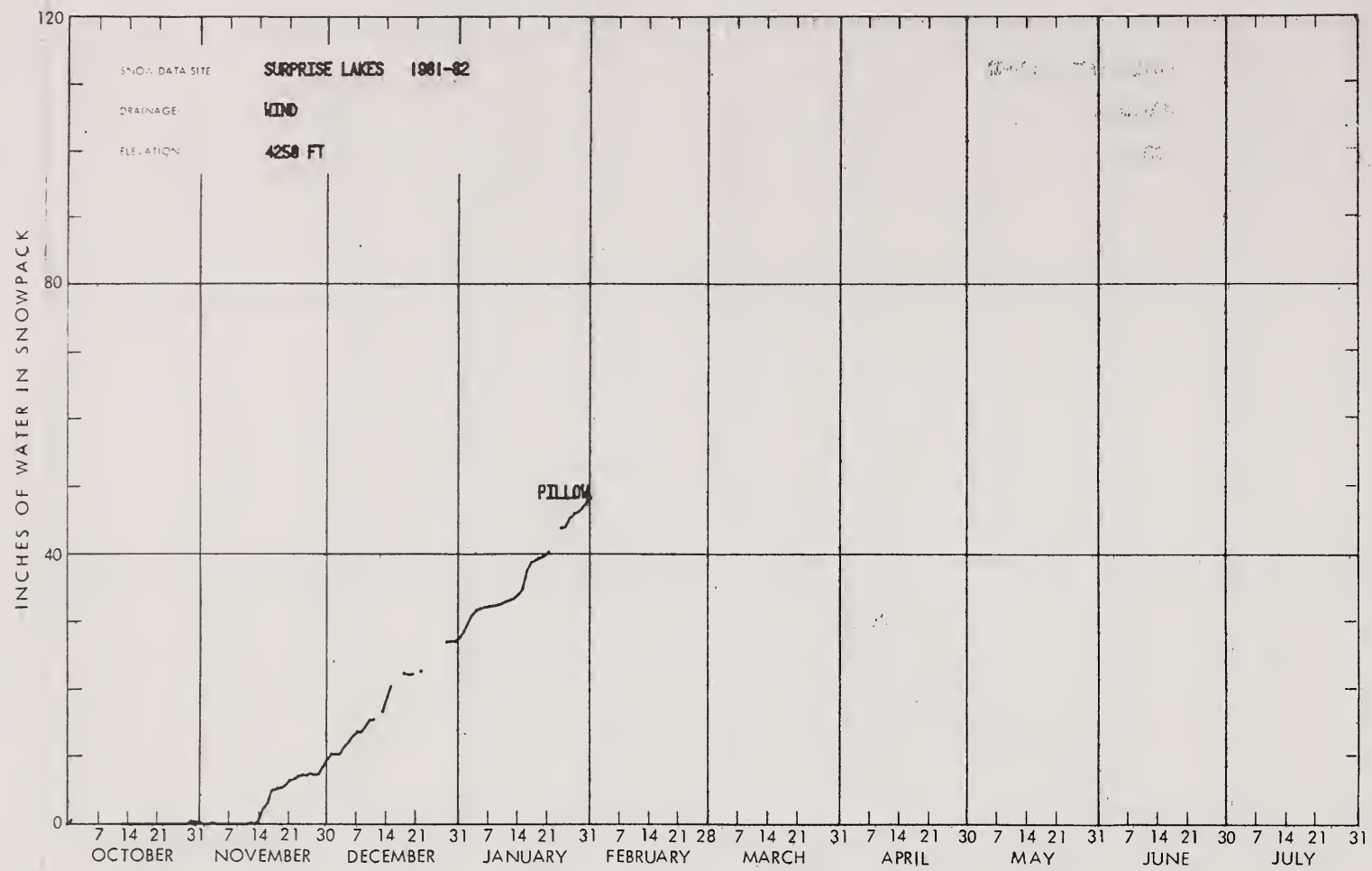


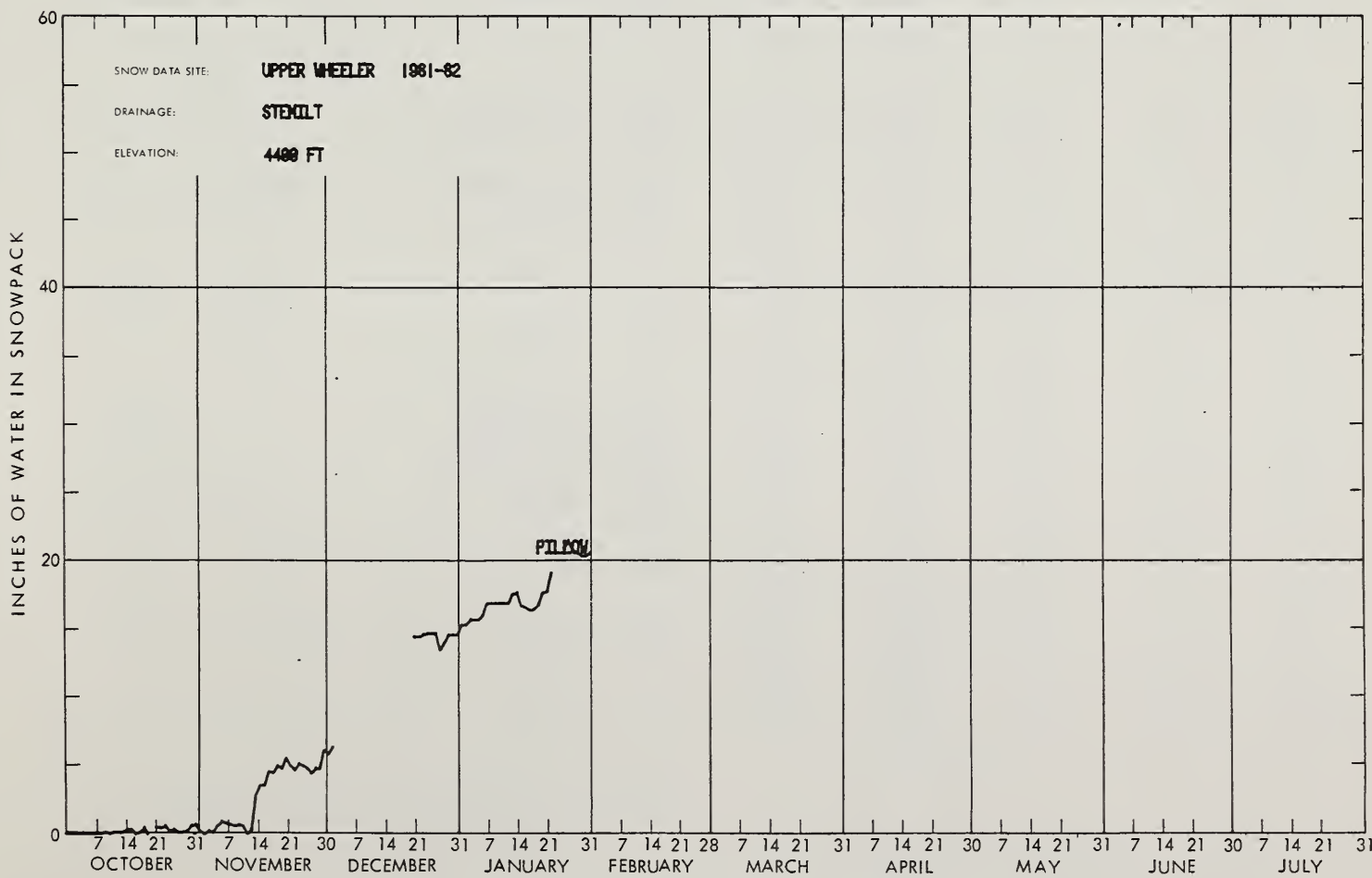
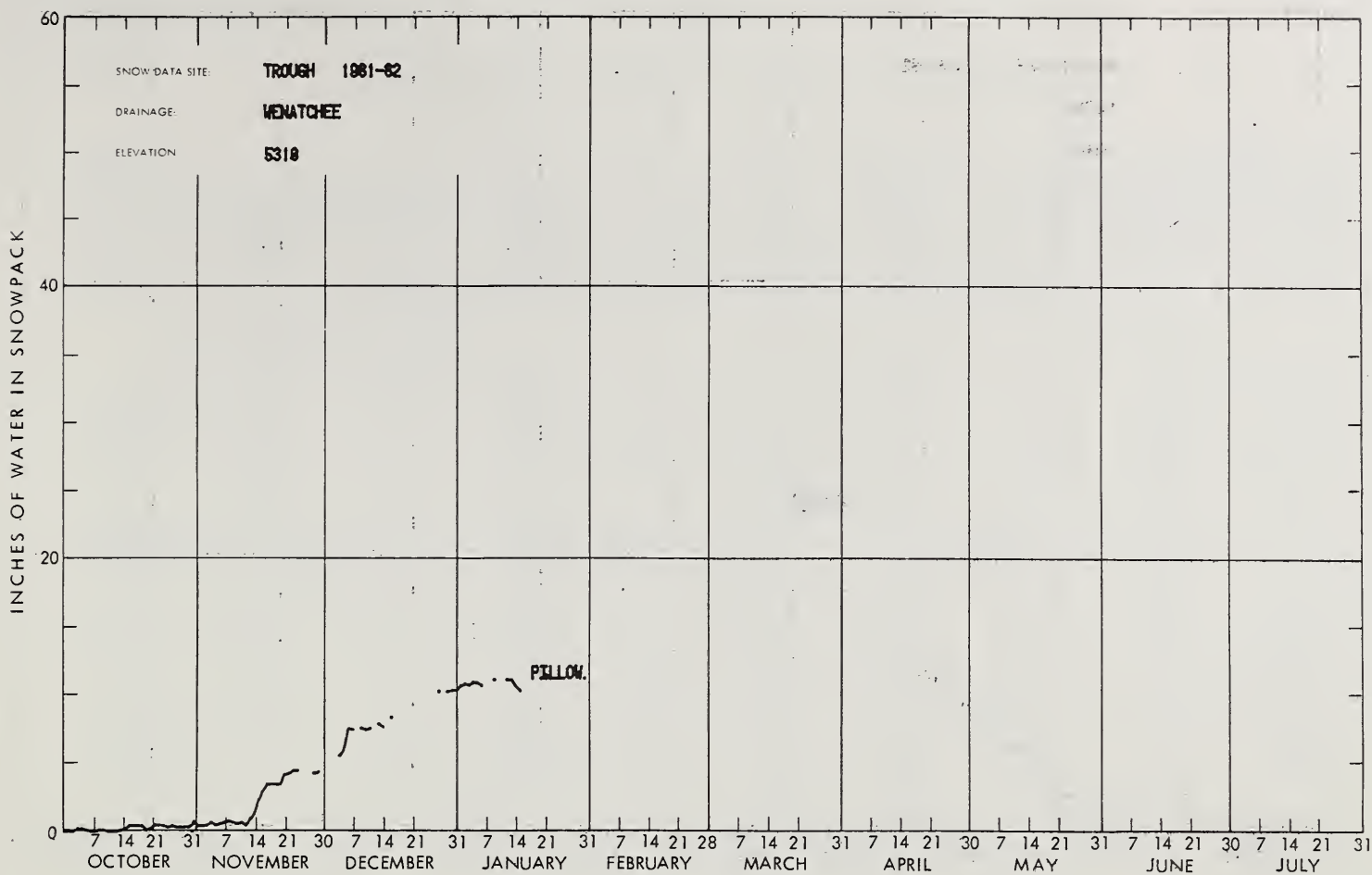


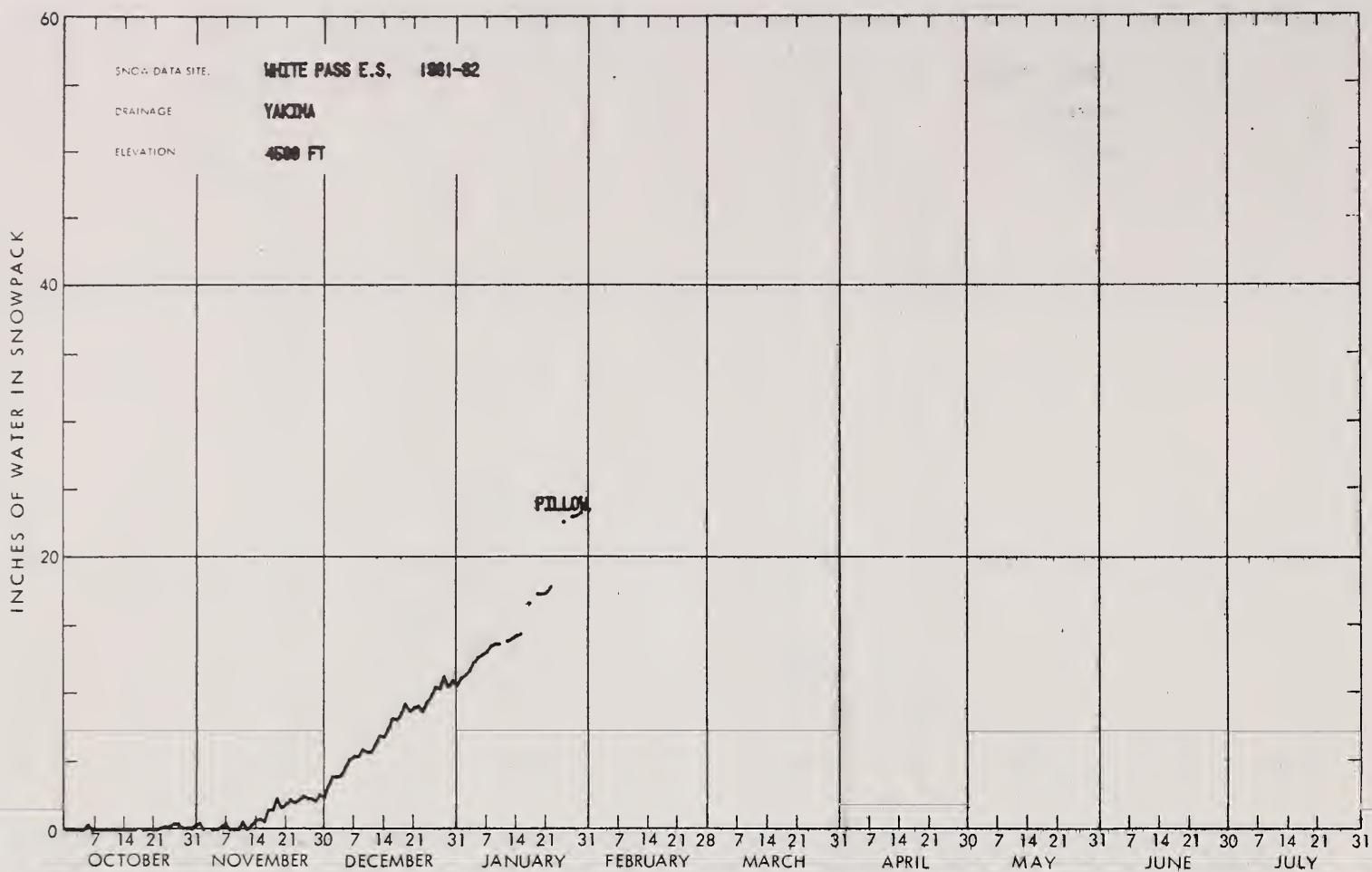












SNOW DATA TO FEBRUARY 1, 1982 - APPENDIX 1

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #

U P P E R C O L U M B I A D R A I N A G E

PEND OREILLE RIVER

Benton Meadow	16A02	2344	12/30	10	1.2	0.0	2.7
			1/28	25	5.9	0.0	5.2
Benton Spring	16A03	4900	12/30	25	5.9	6.3	7.5
			1/29	44	12.1	5.5	13.2
Chewelah	17A04	4925	1/30	38	10.0	5.7	11.5
Heart Lake Trail	14C10	4800	1/1	Not Measured		3.1	9.7
			1/27	68	16.3	3.6	12.8
Hoodoo Basin	15C10	6000	1/8	88	24.6	16.0	22.2
			1/27	120	37.2	20.4	39.7
Hoodoo Creek	15C01	5900	1/1	Not Measured		15.2	19.8
			1/27	114	33.0	16.6	37.2
Lookout	15B02	5250	12/30	48	12.2	8.0	13.8
			1/28	83	21.8	10.8	25.6
Nelson	2D04-Can	3050	12/30	20	4.1	10.0	7.3*
			2/1	48	12.7	9.0	10.9*
Schweitzer Bowl	16A06	4500	12/30	46	13.8	10.2	13.8
			1/29	70	21.8	-	23.1
Schweitzer Ridge	16A05	6100	12/30	56	18.0	19.2	21.3
			1/29	87	31.5	20.1	34.2
Winchester Creek	17A03	2970	1/27	32	7.2	1.2	9.1

KETTLE RIVER

Barnes Creek	2B06-Can	5300	12/29	27	5.7	9.7	8.8*
			2/2	67	15.3	10.0	13.3*
Big White Mtn.	2E03-Can	5500	1/31	57	14.5	-	13.4*
Boulder Road	18A02	1450	1/4	11	1.9	2.4	2.3
			1/27	22	5.3	1.2	3.9
Butte Creek	18A03	4070	1/4	24	3.4	3.3	4.0
			1/27	31	7.0	3.8	6.9
Cabin Creek	18A08	3170	1/4	19	3.3	3.7	3.7
			1/27	28	6.8	4.8	6.0
Carmi	2E02-Can	4100	2/1	27	5.5	2.4	5.0*
Farron # 1	2B02-Can	4000	1/28	46	11.4	6.7	9.3*
Farron # 2	2B02A-Can	4000	1/28	44	11.3	7.0	8.1*
Goat Creek	18A04	3595	1/4	21	3.1	3.5	3.3
			1/27	29	6.2	3.7	5.4
Monashee Pass	2E01-Can	4500	12/29	19	3.6	7.3	6.4*
			2/2	50	11.3	7.6	9.4*
Snow Caps Creek	18A05	2150	1/4	12	2.1	3.0	2.5
			1/27	22	5.8	2.6	4.1
Snow Caps Trail	18A06	2720	1/4	16	3.1	3.2	2.9
			1/27	25	5.0	3.8	4.8

Average based on 1963-1977 Average

* Average for years of record

SNOW DATA TO FEBRUARY 1, 1982 - APPENDIX 2

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average #

KETTLE RIVER (Cont.)

Summit G.S.	18A07	4600	1/4	17	3.0	2.8	3.5
			1/27	25	5.6	2.2	5.9
Trapping Creek Lower	2E05-Can	3050	1/31	26	4.7	2.0	4.1*
Trapping Creek Upper	2E04-Can	4450	1/30	40	8.5	3.4	7.0*

COLVILLE RIVER

Baird	17A06	3215	1/29	29	6.3	3.1	5.5
Carlson	18A09	2885	1/30	17	4.2	0.0	3.7
Chewelah	17A04	4925	1/30	38	10.0	5.7	11.5
Stranger Mountain	17A05	5990	1/30	35	7.9	2.7	10.0
Togo	18A10	3370	1/30	27	7.2	1.9	8.6

SPOKANE RIVER

Above Burke	15B08	4100	12/31	28	5.2	3.0	9.3
			2/1	61	14.2	4.8	16.4
4th of July Summit	16B03	3100	2/1	29	8.5	0.2	7.3
Lookout	15B02	5250	12/30	48	12.2	8.0	13.8
			1/28	83	21.8	10.8	25.6
Mosquito Ridge	16A04	5110	1/27	80	21.2	15.2	24.5
Ragged Ridge	17B02	3333	12/24	7	1.0	-	New
			2/1	24	5.6	-	New
Sherwin	16C01	3200	12/31	25	5.2	0.0	5.5
			1/20	48	13.2	0.7	10.7
Sunset	15B09A	5600	1/26	81	23.5	8.0	27.4

OKANOGAN RIVER

Aberdeen Lake	1F01A-Can	4300	1/29	28	6.3	1.9	5.0*
Blackwall Peak	2G03-Can	6250	12/30	45	10.8	13.7	15.5*
			1/28	93	21.7	14.9	23.9*
Brenda Mine	2F18-Can	4800	12/29	22	4.3	4.3	6.5*
			1/28	42	8.8	5.4	9.4*
Brookmere	1C01-Can	3200	12/31	20	6.0	3.7	3.5*
			1/31	32	7.3	4.8	6.9*
Enderby	1F04-Can	6250	12/30	76	17.8	21.2	18.2*
			1/29	108	32.5	23.3	24.6*
Grayback Res.	2F08-Can	5225	1/29	32	6.1	2.4	6.2*
Hamilton Hill	2G06-Can	4900	1/27	51	9.4	4.5	10.4*
Harts Pass	20A05A	6500	1/29	110	30.0	18.8	34.2
Horseshoe Basin +	19A05a	7000	2/3	66	17.8	-	12.8
Isontok Lake	2F11-Can	6300	12/29	13	1.6	0.6	3.9*
			1/31	28	5.9	1.0	5.9*
Lost Horse Mtn.	2G04-Can	6300				2.8	6.7*

Average based on 1963-1977 Average

* Average for years of record

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO FEBRUARY 1, 1982 - APPENDIX 3

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average †#
OKANOGAN RIVER (Cont.)							
Loup Loup	19A07	4650	1/27	32	8.1	4.4	7.4
McCulloch	2F03-Can	4200	12/31	13	1.2	2.9	3.2*
			1/30	29	3.6	1.5	4.8*
Missezula Mtn.	2G05-Can	5100	1/26	35	4.3	2.4	6.7*
Mission Creek	2F05-Can	6000	12/30	34	5.7	5.8	8.7*
			1/28	54	13.8	7.7	13.1*
Monashee Pass	2E01-Can	4500	12/29	19	3.6	7.3	6.4*
			2/2	50	11.3	7.6	9.4*
Mount Kobau	2F12-Can	5950	12/27	28	7.5	3.1	3.2*
			1/31	40	11.1	5.5	8.5*
Muckamuck +	19A09a	6390	2/3	62	16.7	7.0	11.4
Mutton Creek No. 1	19A01	5700	1/27	49	14.2	4.7	10.8
Mutton Creek No. 2SP	19A11SP	6000	1/27	-	6.6	1.4	New
Oyama Lake	2F19-Can	4400	1/28	27	6.0	1.2	5.0*
Paysayten +	20A28a	4300	2/3	54	14.6	12.0	14.5
Postill Lake	2F07-Can	4500	1/29	31	6.0	3.3	5.8*
Rusty Creek	19A03	4000	1/27	26	6.0	3.0	5.6
Salmon Meadows	19A02	4500	1/27	36	8.1	5.5	7.5
Silver Star Mountain	2F10-Can	6050	12/28	43	11.2	9.8	13.9*
			1/30	79	23.1	12.2	18.7*
Starvation Mountain +	19A10a	6750	2/3	66	17.8	10.0	13.8
Summerland Reservoir	2F02-Can	4200	12/30	16	2.8	3.4	4.8*
			1/30	33	7.1	3.5	7.4*
Sunday Summit	2G01A-Can	4300	1/29	28	7.5	0.4	5.0*
Touts Coulee	19A06	2845	1/27	16	3.0	2.6	3.1
Trout Creek	2F01-Can	4700	1/28	28	5.8	1.3	5.3*
Vaseux Creek	2F20-Can	4600	12/31	12	2.4	2.0	2.6*
			2/1	24	4.1	2.7	4.4*
White Rocks Mtn.	2F09-Can	6000	12/29	41	9.8	5.4	9.5*
			2/1			7.5	16.7*

METHOW RIVER

Harts Pass	20A05A	6500	1/29	110	30.0	18.8	34.2
Horseshoe Basin +	19A05A	7000	2/3	66	17.8	-	12.8
Loup Loup	19A07	4650	1/27	32	8.1	4.4	7.4
Mutton Creek No. 1	19A01	5700	1/27	49	14.2	4.7	10.8
Mutton Creek No. 2SP	19A11SP	6000	1/27	-	6.6	4.5	New
Rusty Creek	19A03	4000	1/27	26	6.0	3.0	5.6
Salmon Meadows	19A02	4500	1/27	36	8.1	5.5	7.5
War Creek Pass +	20A31a	6500	2/1	Not Measured		-	36.2

CHELAN LAKE BASIN

Cloudy Pass +	20A22a	6500		Marker Down		20.4	30.0
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Average based on 1963-1977 Average

* Average for years of record

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO FEBRUARY 1, 1982 - APPENDIX 4

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average [†] / _#

CHELAN LAKE BASIN (Cont.)

Little Meadows +	20A24a	5275	2/2	124	39.7	13.8	30.5
Lyman Lake +	20A23A	5900	2/2	156	49.9	21.3	39.8
Mirror Lake	20A39	5600	2/2	94	35.0	14.0	New
Park Creek Ridge	20A12A	5600	2/2	110	38.8	15.5	36.9
Rainy Pass	20A09	4780	1/27	108	29.8	15.0	30.9
Safety Harbor +	20A30a	6300	2/1	Not Measured	-	-	21.0
War Creek Pass +	20A31a	6500	2/1	Not Measured	-	-	36.2

ENTIAT RIVER

Blue Creek G.S. +	20B28a	5425	2/1	84	21.8	20.3	34.3
Brief	20B19	1600	1/23	32	7.6	1.3	7.0
Entiat Meadows +	20A33a	4540	2/1	132	34.3	23.1	32.2
Entiat River Trail +	20A34a	3325	2/1	70	18.9	9.5	14.5
Four Mile Ridge +	20B27a	6800	2/1	84	21.8	17.5	30.9
Fox Camp +	20A36a	6510	2/1	146	38.0	36.4	44.7
Pope Ridge	20B20	3450	1/27	62	16.4	6.6	15.2
Pugh Ridge	20A32a	6725	2/1	88	22.9	23.5	21.2
Shady Pass	20A37	6200	1/26	88	22.7	11.6	20.7
Snow Brushy +	20A35a	3910	2/1	117	31.6	13.2	30.5
Tommy Creek +	20B21a	4900	2/1	70	18.2	18.2	22.5

WENATCHEE RIVER

Berne Mill Creek	21B23	3170	11/30	16	3.0	1.0	4.7
			12/14	42	10.5	5.8	8.2
			12/29	64	14.5	5.8	11.0
			1/29	73	24.0	6.2	21.5
Berne Mill Creek New	21B41SP	3240	11/30	16	2.5	0.0	4.9
			12/29	53	14.1	1.9	11.6
			1/29	69	22.2	2.4	20.0
Blewett Pass No. 2	20B02	4270	11/25	4	1.0	-	-
			12/23	27	6.8	0.0	6.5
			1/22	48	12.6	0.7	13.2
Chiwaukum G.S.	20B16	1810	11/30	4	0.4	0.0	1.5
			12/14	19	4.0	3.6	3.5
			12/29	26	6.2	1.7	4.8
			1/28	45	10.9	3.4	9.5
Lake Wenatchee	20B05	1970	11/30	4	0.4	0.0	1.7
			12/14	24	4.1	4.0	4.0
			12/29	31	6.2	3.1	5.9
			1/28	55	14.1	3.2	11.8
Leavenworth R.S.	20B17	1127	11/27	0	0.0	0.0	0.7
			12/11	1.7	0.4	1.6	1.9
			12/30	15	2.7	1.3	2.9
			1/28	21	5.9	0.5	5.9
Lyman Lake +	20A23A	5900	2/2	156	49.9	21.3	39.8

Average based on 1963-1977 Average

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO FEBRUARY 1, 1982 - APPENDIX 5

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average [†] / _#
<u>WENATCHEE RIVER (Cont.)</u>							
Merritt	20B18	2140	11/30	7	1.0	0.0	2.5
			12/14	27	4.9	4.7	5.2
			12/29	36	8.4	1.3	7.1
			1/28	58	16.0	2.7	14.0
Stevens Pass	21B01	4070	11/30	34	5.3	2.2	8.5
			12/14	63	16.2	8.8	14.6
			12/29	84	22.9	6.1	21.9
			1/28	119	38.5	7.0	37.3
Stevens Pass Sand Shed	21B45	3700	11/30	24	3.7	0.5	8.2
			12/14	50	12.8	5.6	13.5
			12/29	66	18.6	2.2	15.3
			1/28	94	30.4	2.8	27.1

COLOCKUM CREEK

Colockum Creek Upper	20B22	5300	1/27	35	10.6	1.1	11.7
Colockum Creek Lower	20B23	4300	1/27	30	7.8	3.2	8.5
Trough # 2	20B25SP	5310	1/27	44	11.5	1.0	New

SQUILCHUCK CREEK

Beehive Springs	20B03	4400	1/27	25	6.8	2.2	6.7
Scout-A-Vista	20B04	3400	1/27	27	6.3	3.2	6.9

STEMILT CREEK

Jump-Off	20B08	4450	1/26	30	8.4	1.2	7.1
Stemilt Slide	20B06	5000	1/26	41	12.1	3.3	11.2
Upper Wheeler	20B07	4400	1/26	27	8.4	1.0	8.4

YAKIMA RIVER

Ahtanum R. S.	21C11	3100	12/28	24	5.4	2.8	3.2
			1/25	24	4.6	1.3	6.1
Blewett Pass No. 2	20B02	4270	11/25	4	1.0	-	-
			12/23	27	6.8	0.0	6.5
			1/22	48	12.6	0.7	13.2
Bumping Lake Old	21C08	3450	12/31	30	7.1	3.4	6.5
			1/15	30	8.1	2.8	11.2
			1/29	44	12.1	4.0	13.3
Bumping Lake New	21C36	3400	12/15	40	5.9	4.7	6.4
			12/31	35	6.8	4.6	8.3
			1/15	36	10.0	5.1	14.2
			1/29	54	16.1	5.6	16.8

Average based on 1963-1977 Average

SNOW DATA TO FEBRUARY 1, 1982 - APPENDIX 6

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average [†] / _#
YAKIMA RIVER (Cont.)							
Cayuse Pass	21C06	5300	1/1	-	33.0*	14.3	34.5
			2/2	-	54.4*	15.8	59.5
Colockum Pass	20B09	5370	1/27	45	14.2	2.6	11.8
Cooke Creek	20B10	4123	1/27	20	5.1	0.5	5.3
Corral Pass	21B13	6000	2/3	102	36.9	9.0	17.2
Green Lake	21C10	6000	1/25	100	36.7	11.3	19.5
Grouse Camp	20B11	5385	1/26	53	15.3	5.5	12.3
High Creek	20B12	2930	1/26	27	4.9	1.7	5.5
Joe Lake +	21B46a	4624	2/1	Not Measured		8.4	41.8
Lake Cle Elum	21B14M	2200	12/3	7.2	1.8	-	0.9
			12/11	9.8	2.4	3.0	2.3
			12/29	30	6.6	2.2	3.9
			1/14	24	7.4	1.0	7.7
			1/27	36	11.8	0.9	8.5
Lemah Creek +	21B47a	3327	2/3	118	40.9	12.0	31.0
Manashtash	20C01	3935	1/28	21	4.6	1.4	4.3
Morse Lake	21C17	5400	2/1	Not Measured		16.0	38.9
Nanum	20B13	3875	1/26	25	5.1	2.5	7.4
Olallie Meadows	21B02	3625	2/3	113	42.9	3.2	34.9
Satus Pass	20D01	4030	1/28	40	11.8	1.4	8.9
Stampede Pass SP	21B10	3860	11/30	20	3.5	3.1	6.9
			12/14	42	11.0	5.2	13.8
			12/28	78	17.5	5.9	17.4
			2/3	114	40.2	6.7	31.5
Trail Creek	20B14	3360	1/27	15	4.2	0.4	2.9
Tunnel Avenue	21B08	2450	12/2	9.6	1.9	-	2.9
			12/11	18	5.4	4.2	6.9
			12/29	46	11.5	3.1	8.4
			1/12	42	13.2	2.0	15.0
			1/27	62	20.0	2.2	17.8
Van Epps Pass +	20B26a	5925	2/3	137	47.5	18.3	39.5
Walters Flat	20B15	3360	1/26	24	5.8	3.1	6.5
Waptus Lake +	21B49a	3024	2/3	124	43.0	7.4	32.3
White Pass (E. Side)	21C28	4500	12/14	33	8.4	4.6	7.6
			12/30	48	10.2	2.6	10.5
			1/15	52	15.6	1.2	14.4
			1/28	75	23.4	3.0	18.4

AHTANUM CREEK

Ahtanum R. S.	21C11	3100	12/28	24	5.4	2.8	3.2
			1/25	24	4.6	1.3	6.1
Green Lake	21C10	6000	1/25	100	36.7	11.3	19.5

Average based on 1963-1977 Average

+ Snow water equivalent estimated from aerial stadia observation

* Pillow reading

SNOW DATA TO FEBRUARY 1, 1982 - APPENDIX 7

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average [#]

LOWER COLUMBIA DRAINAGEASOTIN CREEK

Spruce Springs	17C04	5700	1/25	66	20.2	5.1	18.2
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MILL CREEK

Homestead	17C01	4030	1/26	44	10.5	0.5	7.2
Martin Springs	17C02	4400	1/26	55	12.7	1.1	10.3
High Ridge	18D19	4150	2/1	95	29.6	7.5	17.7

KLICKITAT RIVER

Satus Pass	20D01	4030	1/28	40	11.8	1.4	8.9
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COWLITZ RIVER

Cayuse Pass	21C06	5300	1/1	-	33.0*	14.3	34.5
			2/2	-	54.4*	15.8	59.5
Sheep Canyon	22C10SP	4050	1/6	65	15.8	-	New
			2/1	-	35.3	SNOTEL	
Strawberry Landing	22C08SP	3280	1/6	104	35.5	-	New
			2/1	-	51.3	SNOTEL	
White Pass (E. Side)	21C28	4500	12/14	33	8.4	4.6	7.6
			12/30	48	10.2	2.6	10.5
			1/15	52	15.6	1.2	14.4
			1/28	75	23.4	3.0	18.4

LEWIS RIVER

June Lake	22C09SP	3200	1/6	66	18.9	-	New
			2/1	-	31.7	SNOTEL	
Lone Pine Shelter	21C26	3800	1/6	73	19.2	-	New
			2/1		35.9	SNOTEL	
Plains of Abraham	22C01SP	4400	1/6	147	58.5	-	New
			2/1	SNOTEL	DOWN		
Sheep Canyon	22C10SP	4050	1/6	65	15.8	-	New
			2/1	-	35.3	SNOTEL	
Spencer Meadow	21C20a	3400	1/6	66	17.6	-	New
			2/1	SNOTEL	DOWN		
Surprise Lakes	21C13A	4250	1/6	105	32.4	-	New
			2/1	-	48.4	SNOTEL	

Average based on 1963-1977 Average

* Pillow reading

SNOW DATA TO FEBRUARY 1, 1982 - APPENDIX 8

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average [†] #

PUGET SOUND DRAINAGEWHITE RIVER

Cayuse Pass	21C06	5300	1/1	-	33.0*	14.3	34.5
			2/2	-	54.4*	15.8	59.5
Corral Pass	21B13	6000	2/3	102	36.9	9.0	17.2
Morse Lake	21C17	5400	2/1	Not Measured		16.0	38.9

GREEN RIVER

Airstrip	21B24	1800	1/4	24	4.3	-	1.8
			1/31	12	4.6	0.0	5.6
Charley Creek	21B25	1200	12/30	8.2	1.3	-	1.5
			1/31	0	0.0	0.0	1.3
Cougar Mountain	21B42SP	3200	2/3	71	24.0	2.4	17.3
Grass Mtn. No. 2	21B27	2900	1/4	38	8.1	-	5.8
			1/31	36	12.7	2.1	15.2
Grass Mtn. No. 3	21B28	2100	1/1	Not Measured		-	2.2
			1/31	18	6.3	0.6	5.2
Lester Creek	21B29	3100	1/4	55	11/7	-	8.5
			1/31	60	18.0	3.3	17.5
Lynn Lake	21B50	4000	1/4	56	15.1	-	8.5
			1/31	64	25.4	3.1	18.2
Sawmill Ridge	21B31	4700	1/4	69	15.8	-	13.7
			1/31	84	28.8	6.3	27.5
Stampede Pass SP	21B10	3860	11/30	20	3.5	3.1	6.9
			12/14	42	11.0	5.2	13.8
			12/28	78	17.5	5.9	17.4
			2/3	114	40.2	6.7	31.5
Twin Camp	21B30	4100	1/1	Not Measured		-	10.6
			1/31	76	26.0	2.7	18.4

SNOQUALMIE RIVER

Olallie Meadows	21B02	3625	2/3	113	42.9	3.2	34.9
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SKYKOMISH RIVER

Stevens Pass	21B01	4070	11/30	34	5.3	2.2	8.5
			12/14	63	16.2	8.8	14.6
			12/29	84	22.9	6.1	21.9
			1/28	119	38.5	7.0	37.3
Stevens Pass Sand Shed	21B45	4070	11/30	24	3.7	0.5	8.2
			12/14	50	12.8	5.6	13.5
			12/29	66	18.6	2.2	15.3
			1/28	94	30.4	2.8	27.1

Average based on 1963-1977 Average

* Pillow reading

SNOW DATA TO FEBRUARY 1, 1982 - APPENDIX 9

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average [†]

SKAGIT RIVER

Beaver Creek Trail	21A04	2200	1/27	46	13.4	0.8	12.2
Beaver Pass	21A01	3680	1/28	84	23.6	3.7	24.4
Brown Top Ridge +	21A28a	6000	1/27	147	46.5	26.6	48.1
Cloudy Pass +	20A22a	6500	2/1	Not Measured		20.4	30.0
Devils Park	20A04	5900	1/27	114	32.6	18.4	34.0
Freezeout Creek Trail	20A01	3500	1/28	50	11.7	0.5	11.3
Freezeout Meadows New	20A38	5000	1/28	86	23.0	9.0	28.2
Granite Creek	21A29A	3500	1/27	69	13.9	3.9	16.3
Harts Pass	20A05A	6500	1/29	110	30.0	18.8	34.2
Klesilkwa	3D03A-Can	3700	2/4	61	14.7	0.1	9.3*
Lightning Lake	3D02-Can	4000		Late Report		2.6	5.8*
Lyman Lake	20A23A	5900	2/2	156	49.9	21.3	39.8
Meadow Cabins	20A08	1900	1/28	24	7.1	0.0	6.9
New Hozomeen Lake	21A30	2800	1/28	41	9.7	0.8	10.5
New Tashme	3D01A-Can	2500	2/1	41	11.2	0.7	8.2*
Rainy Pass	20A09	4780	1/27	108	29.8	15.0	30.9
Thunder Basin	20A07	4200	1/28	61	8.0	1.0	17.0

BAKER RIVER

Dock Butte +	21A11A	3800	12/29	82	29.0	4.0	27.8
				Late Report		4.0	47.4
Easy Pass +	21A07A	5200	12/29	66	23.0	18.0	30.9
				Late Report		16.0	51.7
Jasper Pass +	21A06A	5400	12/29	112	39.0	24.0	43.0
				Late Report		23.0	66.5
Marten Lake	21A09A	3600	12/29	76	27.0	8.0	34.8
				Late Report		11.0	55.4
Mt. Blum +	21A18a	5800	12/29	53	19.0	14.0	30.4
				Late Report		16.0	48.4
Panorama New	21A26	4300		Not Measured		-	48.7
Rocky Creek	21A12A	2100	12/29	56	20.0	0.0	13.0
				Late Report		2.0	24.7
Schreibers Meadow	21A10A	3400	12/29	70	25.0	4.0	24.8
				Late Report		3.0	41.0
S. F. Thunder Creek +	21A14A	2200	12/29	22	8.0	0.0	5.4
				Late Report		2.0	10.0
Watson Lakes	21A08A	4500	12/29	65	23.0	4.0	27.5
				Late Report		8.0	44.4

NOOKSACK RIVER

Glacier Creek	21A23	3700		Not Measured		0.0	8.5
Panorama New	21A26	4300		Not Measured		-	48.7

Average based on 1963-1977 Average

* Average for years of record

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO FEBRUARY 1, 1982 - APPENDIX 10

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average ⁺ / _#

O L Y M P I C P E N I N S U L A D R A I N A G EDUNGENESS RIVER

Deer Park	23B04	5200	1/29	61	18.6	0.8	15.2
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MORSE CREEK

Cox Valley	23B14	4500	1/31	106	32.4	2.3	29.1
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ELWHA RIVER

Hurricane	23B03	4500	1/27	59	15.2	0.7	16.4
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Average based on 1963-1977 Average

PRECIPITATION STORAGE GAGES

Amount of precipitation in inches that has accumulated since the previous measurement.

BIG BOULDER CREEK		BUNCHGRASS MDW		CEDAR FALLS SSE		CEDAR FALLS 8SE	
10/1/80	Recharge	10/1/80	Recharge	7/31/80	Recharge	7/29/80	Recharge
11/1/80	1.8	11/1/80	3.1	9/3/80	3.62	9/3/80	4.05
12/1/80	11.0	12/1/80	6.1	10/3/80	3.41	10/3/80	4.04
1/1/81	15.4	1/1/81	8.3	11/3/80	1.49	11/3/80	1.92
2/1/81	2.3	Inoperable		1/6/81	22.15	12/1/80	13.21
3/1/81	11.3	6/3/81		2/2/81	2.99	1/6/81	14.05
4/1/81	1.8	7/1/81	10.9	3/3/81	8.52	2/2/81	2.13
5/1/81	5.8	8/1/81	6.0	4/2/81	4.47	3/2/81	12.57
6/1/81	2.6	9/1/81	0.3	5/1/81	7.45	4/2/81	4.43
7/1/81	3.4	10/1/81	2.3	6/2/81	5.00	5/4/81	10.86
8/1/81	0.6	11/1/81	4.7	7/2/81	8.52	6/2/81	3.19
9/2/81	1.0	12/1/81	5.3	7/27/81	1.49	7/1/81	7.24
10/1/81	2.0	1/2/82	6.3	9/1/81	0.64	7/27/81	1.49
11/1/81	4.4	1/31/82	0	10/2/81	8.51	9/1/81	1.28
12/1/81	6.0			11/2/81	1.70	10/1/81	4.04
				12/1/81	4.26	11/2/81	7.25
						12/1/81	5.53
BLEWETT PASS		CARNATION 15E		CEDAR FALLS 7SE		CEDAR FALLS 10SE	
8/8/81		8/4/80	Recharge	7/30/80	Recharge	7/30/80	Recharge
9/1/81	1.0	9/6/80	7.88	9/2/80	11.72	9/2/80	6.18
10/1/81	2.0	10/2/80	5.54	10/1/80	3.41	10/3/80	4.26
11/1/81	3.0	11/7/80	10.22	11/3/80	3.83	11/3/80	4.47
12/1/81	3.4	12/2/80	15.98	12/1/80	15.12	1/6/81	34.08
1/1/82	7.8	1/6/81	20.23	1/6/81	15.98	2/2/81	3.84
2/1/82	9.5	2/3/81	2.77	2/2/81	3.41	3/2/81	18.53
		3/3/81	20.45	3/2/81	14.91	4/2/81	7.03
		4/2/81	6.82	4/1/81	5.53	5/4/81	15.76
		5/5/81	17.25	5/4/81	13.00	6/4/81	6.39
		6/3/81	5.32	6/4/81	4.68	7/1/81	11.08
		7/2/81	12.56	7/1/81	8.95	7/28/81	2.55
		7/30/81	3.62	7/30/81	1.92	9/1/81	2.98
		9/6/81	1.70	9/1/81	1.50	10/1/81	5.32
		10/6/81	13.00	10/1/81	5.53	11/2/81	8.74
		11/3/81	7.66	11/2/81	8.74	12/1/81	8.73
		12/1/81	10.65	12/1/81	7.45		
BUMPING RIDGE		CEDAR FALLS 4SE		CEDAR FALLS 7SSE		CONSULTANT CREEK	
10/1/80	Recharge	7/28/80	Recharge	7/30/80	Recharge	8/4/30	Recharge
11/1/80	0.5	9/3/80	4.68	9/30/80	5.75	9/6/80	8.56
12/1/80	12.7	10/3/80	6.60	10/3/80	4.47	10/2/80	6.30
1/1/81	11.4	11/3/80	3.19	11/3/80	3.20	11/7/80	8.77
2/1/81	0.4	12/1/80	15.76	12/1/80	14.69	1/6/81	33.30
3/1/81	7.8	1/6/81	17.04	1/6/81	18.75	2/3/81	4.72
4/1/81	3.3	2/2/81	4.26	2/2/81	3.62	3/3/81	17.32
5/1/81	4.0	3/2/81	14.48	3/2/81	15.76	5/5/81	26.10
6/1/81	0.2	4/2/81	7.03	4/2/81	6.39	6/3/81	2.70
7/2/81	4.8	5/4/81	14.91	5/4/81	14.48	7/2/81	17.10
8/1/81	0.4	6/5/81	6.39	6/5/81	6.18	7/30/81	4.72
9/1/81	0.2	7/1/81	10.44	7/1/81	9.16	9/6/81	2.48
11/1/81	9.6	7/29/81	2.56	7/28/81	2.77	10/6/81	12.60
12/1/81	2.1	9/1/81	1.70	9/1/81	2.13	11/3/81	6.74
1/1/82	8.0	10/1/81	5.54	10/1/81	5.11	12/1/81	9.46
1/31/82	5.7	11/2/81	9.58	11/3/81	9.37		
		12/1/81	8.73	12/1/81	8.52		

<u>CORRAL PASS</u>		<u>FROZEN MOUNTAIN</u>		<u>LESTER 5NNE</u>		<u>LESTER 8NNW</u>	
10/1/80	Recharge	8/5/80	Recharge	7/28/80	Recharge	7/31/80	Recharge
11/1/80	22.3	9/6/80	10.80	9/2/80	6.60	9/3/80	4.68
12/1/80	6.4	10/2/80	6.52	10/1/80	3.41	10/3/80	4.26
1/1/81	6.9	11/7/80	11.26	11/4/80	4.26	11/4/80	4.05
2/1/81	1.7	Out of Service		1/7/81	28.76	1/7/81	30.67
3/1/81	6.5	7/31/81	Recharge	3/3/81	18.74	2/3/81	2.98
4/1/81	2.9	9/6/81	2.48	5/1/81	18.10	3/3/81	15.34
Inoperable		10/6/81	13.94	6/2/81	6.17	4/2/81	4.26
10/1/81	Recharge	11/3/81	9.00	7/2/81	10.65	5/1/81	10.01
11/1/81	2.3	12/1/81	11.93	7/29/81	1.07	6/5/81	5.54
12/1/81	7.3			9/2/81	3.40	7/2/81	6.82
1/1/82	11.8	<u>GREEN LAKE</u>		10/2/81	3.62	8/4/81	3.62
2/1/82	14.1	No data prior to		11/3/81	4.90	9/2/81	2.56
		10/1/81	Recharge			10/2/81	5.32
		12/1/81	6.4	<u>LESTER 7NNW</u>		11/3/81	5.54
<u>COUGAR MOUNTAIN</u>		1/1/82	12.5	7/31/80	Recharge	12/2/81	10.22
No data prior to		1/8/82	0.8	9/3/80	4.90		
10/1/81	Recharge			10/3/80	3.41	<u>LESTER 10NNW</u>	
11/1/81	8.5	<u>GROUSE CAMP</u>		11/4/80	4.69	7/28/80	Recharge
12/1/81	7.0	No data prior to		1/7/81	31.74	9/3/80	4.90
1/1/82	16.6	10/1/81	Recharge	2/3/81	2.98	10/3/80	5.12
2/1/82	22.9	11/11/81	3.6	3/3/81	16.82	11/3/80	3.62
		11/25/81	4.0	4/2/81	4.48	12/1/80	15.55
<u>DRY CREEK</u>		Inoperable		5/1/81	10.65	1/7/81	17.69
8/5/80	Recharge			6/5/81	5.32	2/2/81	2.76
9/6/80	10.35	<u>HARTS PASS</u>		7/2/81	7.88	3/3/81	16.61
10/2/80	5.85	10/1/80	Recharge	8/4/81	1.28	4/2/81	5.11
11/7/80	8.78	3/26/81	71.2	9/2/81	2.34	5/1/81	12.14
12/2/80	15.76	4/1/81	7.5	10/5/81	6.18	6/2/81	4.69
2/3/81	22.50	5/1/81	3.2	11/3/81	5.11	7/2/81	10.65
4/2/81	27.90	6/1/81	3.9	12/2/81	11.08	7/29/81	1.06
5/5/81	19.12	7/1/81	2.9			9/1/81	2.56
6/3/81	6.75	8/1/81	1.6	<u>LESTER 8N</u>		10/5/81	6.81
7/2/81	11.92	9/1/81	0.9	7/31/80	Recharge	11/2/81	5.75
7/31/81	3.82	10/1/81	6.3	9/3/80	5.54	12/2/81	10.23
9/6/81	1.58	11/1/81	3.3	10/3/80	5.32		
10/6/81	13.50	12/1/81	5.6	11/4/80	3.62	<u>LESTER 11NW</u>	
11/3/81	7.65	1/2/82	8.3	1/7/81	31.52	7/29/80	Recharge
12/1/81	9.90	2/1/82	10.7	2/3/81	3.41	9/3/80	4.48
				3/3/81	15.76	10/3/80	4.26
<u>FISH LAKE</u>		<u>JUNE LAKE</u>		4/2/81	4.47	11/3/80	2.13
10/1/80	Recharge	10/1/80	Recharge	5/5/81	12.78	12/1/80	14.06
4/1/81	47.1	12/13/80	76.8	6/2/81	4.47	1/7/81	15.54
5/1/81	4.5	1/1/81	4.0	7/2/81	8.10	2/2/81	3.40
6/1/81	2.2	2/1/81	5.1	8/4/81	2.55	3/2/81	14.27
7/1/81	3.2	3/1/81	29.3	9/2/81	2.56	4/2/81	3.84
8/1/81	1.6	5/8/81	38.4	10/5/81	5.32	5/1/81	10.86
9/1/81	0.6	6/1/81	3.4	11/3/81	5.12	6/2/81	4.69
10/1/81	3.7	7/1/81	16.2			7/1/81	9.58
11/1/81	5.7	8/1/81	0.8			7/29/81	1.71
12/1/81	5.8	9/1/81	0			9/2/81	2.77
1/1/82	9.4	10/1/81	9.0			10/2/81	4.48
2/1/82	11.0	11/1/81	23.5			11/3/81	5.53
		12/1/81	24.7			12/2/81	9.16
		1/6/82	39.2				
		2/1/82	31.1				

LONE PINE		MT. INDEX		PARK CREEK RIDGE		PORT ANGELES 11S	
No data prior to		8/5/80	Recharge	10/1/80	Recharge	9/1/80	Recharge
10/1/81	Recharge	9/6/80	10.57	11/1/80	2.3	9/1/81	47.74
11/1/81	13.5	10/2/80	6.98	12/1/80	14.0	POTATO HILL	
12/1/81	14.4	11/7/80	10.58	1/1/81	16.0	10/1/80	Recharge
1/1/82	15.2	1/6/81	40.50	2/1/81	3.0	3/15/81	75.5
2/1/82	8.9	2/3/81	4.05	3/2/81	10.8	5/7/81	7.1
MIDDLE FORK TAYLOR		3/3/81	22.28	4/1/81	1.7	10/1/81	Recharge
8/1/80	Recharge	5/5/81	28.36	5/1/81	6.4	11/1/81	5.4
9/2/80	5.75	6/3/81	7.20	6/1/81	1.6	12/1/81	9.4
10/3/80	4.90	7/2/81	13.94	7/1/81	4.4	1/1/82	14.9
11/3/80	6.18	7/31/81	4.28	8/1/81	1.1	1/27/82	13.2
12/1/80	12.36	9/6/81	2.93	9/1/81	1.1	RAINY PASS	
1/6/81	17.68	10/6/81	12.14	10/1/81	1.8	10/1/80	Recharge
2/2/81	4.04	11/3/81	8.56	11/1/81	4.1	11/1/80	0.5
3/2/81	13.85	NORTH FORK TAYLOR		12/1/81	3.3	11/30/80	11.7
4/1/81	5.11	8/1/80	Recharge	1/1/82	13.5	3/25/81	67.1
5/4/81	11.50	9/2/80	4.47	1/30/82	13.7	4/1/81	1.0
6/3/81	6.61	10/3/80	4.26	PIGTAIL PEAK		5/1/81	5.3
7/1/81	11.50	11/3/80	4.26	10/1/80	Recharge	6/1/81	3.2
8/5/81	2.34	12/1/80	12.14	2/13/81	130.2	7/1/81	4.8
9/1/81	1.07	1/6/81	14.91	3/1/81	9.3	8/1/81	0.9
10/1/81	6.82	2/2/81	2.98	4/1/81	3.5	9/1/81	2.0
11/3/81	10.22	3/2/81	10.87	5/1/81	7.6	10/1/81	1.0
12/1/81	3.62	4/1/81	4.26	6/1/81	2.7	11/1/81	4.7
MIRROR LAKE		5/4/81	9.16	7/1/81	5.6	12/1/81	5.7
10/1/81	Recharge	6/3/81	6.60	8/1/81	2.6	1/1/82	9.6
11/1/81	5.4	7/1/81	9.58	10/1/81	1.0	2/1/82	8.7
12/1/81	6.6	8/5/81	2.35	11/1/81	4.3	REGAN HIGH	
1/6/82	10.0	9/1/81	1.28	12/1/81	8.2	10/4/80	Recharge
1/16/82	0.8	10/1/81	4.69	1/1/82	10.0	12/18/80	10.56
MONTE CRISTO		11/3/81	8.52	1/30/82	3.1	1/29/81	5.92
10/31/80	Recharge	12/1/81	8.73	PLAINS OF ABRAHAM		3/2/81	5.60
11/4/81	138.15	OLALLIE MEADOWS		10/1/80	Recharge	3/27/81	1.0
MORSE LAKE		10/1/81	Recharge	12/1/80	40.3	4/13/81	5.0
10/1/80	Recharge	11/1/81	3.5	2/1/81	27.6	5/26/81	0.5
11/7/80	2.2	12/1/81	11.3	3/1/81	23.1	7/27/81	5.48
12/1/80	10.2	1/2/82	20.0	4/1/81	6.8	8/27/81	0.5
12/22/80	10.5	1/21/82	7.1	5/1/81	11.4	9/28/81	0.48
2/11/81	13.3	PARADISE		6/1/81	3.5	RUSTY CREEK	
3/1/81	11.4	10/1/80	Recharge	7/1/81	8.8	9/25/80	Recharge
4/1/81	3.7	11/2/80	5.6	8/1/81	1.0	10/27/80	0.3
5/1/81	8.7	12/1/80	21.0	9/1/81	0.1	11/25/80	1.6
Leak		1/1/81	25.3	10/1/81	7.2	12/23/80	2.5
10/1/81	Recharge	2/10/81	0.9	10/18/81	8.4	1/28/81	2.7
11/1/81	9.5	3/1/81	17.4	Inoperable		2/25/81	3.8
12/1/81	12.0	4/19/81	15.8	POPE RIDGE		3/27/81	0.8
1/1/82	7.2	5/2/81	6.7	10/1/81	Recharge	4/28/81	0.6
2/1/82	11.3	6/1/81	5.3	11/1/81	2.5	10/1/81	Recharge
		7/1/81	7.8	12/1/81	3.8	1/27/82	13.70
		8/1/81	0.5	1/1/82	6.7		
		9/1/81	0	2/1/82	15.2		
		10/1/81	28.6				
		11/1/81	0				
		12/1/81	11.4				
		1/1/82	21.5				
		2/1/82	6.7				

<u>SALMON MEADOWS</u>		<u>SPRUCE SPRINGS</u>		<u>SWAUK PASS</u>		<u>TROUGH (Cont'd)</u>	
9/25/80	2.38	10/1/80	Recharge	9/30/80	Recharge	6/1/81	2.1
10/27/80	0	10/1/81	39.80	12/17/80	6.75	7/2/81	1.0
11/25/80	1.62			12/30/80	2.82	8/1/81	0.5
12/23/80	3.25	<u>STAMPEDE PASS</u>		1/27/81	1.68	9/1/81	0.6
1/28/81	2.75	10/1/81	Recharge	3/2/81	4.79	10/1/81	3.2
2/26/81	4.25	11/1/81	5.5	3/27/81	1.69	11/1/81	3.9
3/27/81	1.00	12/1/81	7.7	4/13/81	1.13	12/4/81	4.8
4/28/81	1.50	Inoperable		4/28/81	0.14	1/1/82	4.5
10/1/81	Recharge			5/26/81	2.39	1/30/82	2.8
1/27/82	17.13	<u>STEVENS PASS</u>		7/27/81	1.98		
		10/1/80	Recharge	8/27/81	2.07	<u>UPPER WHEELER</u>	
<u>SHEEP CANYON</u>		11/1/80	1.2			10/1/80	Recharge
10/1/80	Recharge	12/1/80	8.2	<u>TAYLOR CREEK</u>		3/26/81	25.2
12/11/80	25.0	1/1/81	9.1	8/1/80	Recharge	4/1/81	0
1/1/81	10.8	2/1/81	1.3	9/2/80	3.62	5/1/81	1.5
2/4/81	3.8	3/1/81	6.8	10/3/80	3.84	6/1/81	2.7
3/1/81	20.2	4/2/81	1.5	11/3/80	3.20	7/1/81	1.4
4/1/81	10.2	5/2/81	4.3	12/1/80	11.50	8/1/81	3.5
5/6/81	13.8	6/3/81	1.8	1/6/81	11.50	10/1/81	Recharge
6/1/81	5.2	Inoperable		2/2/81	2.56	11/1/81	4.3
8/1/81	7.4	10/1/81	Recharge	3/2/81	8.95	12/1/81	6.4
9/1/81	1.1	12/1/81	5.4	4/1/81	4.47	1/1/82	5.8
10/1/81	4.5			5/4/81	8.31	2/1/82	5.1
11/1/81	19.4	<u>STRAWBERRY LANDING</u>		6/3/81	5.96		
12/1/81	15.2	10/1/80	Recharge	7/1/81	7.96	<u>WHITE PASS</u>	
1/6/82	6.6	12/12/80	12.6	8/5/81	2.14	10/1/80	Recharge
2/1/82	38.3	12/26/80	19.6	9/1/81	1.07	11/21/80	2.5
		3/6/81	25.8	10/1/81	4.90	12/20/80	27.3
<u>SNOHOMISH 8W</u>		4/1/81	6.6	11/3/81	7.02	1/1/81	8.5
8/6/80	Recharge	5/4/81	11.2	12/1/81	5.54	2/1/81	2.1
9/6/80	10.22	6/5/81	5.6			3/1/81	7.3
10/2/80	8.52	7/1/81	11.5	<u>TOUCHET #2</u>		4/1/81	1.2
11/7/80	12.99	8/1/81	1.7	10/1/80	Recharge	5/1/81	3.6
Road Blocked		9/4/81	0.5	11/1/80	2.7	6/1/81	2.7
6/4/81	126.10	10/1/81	6.9	12/1/80	6.4	7/1/81	3.2
7/2/81	15.97	12/4/81	28.4	1/20/81	10.8	9/2/81	0
8/3/81	3.84	1/1/82	15.1	2/1/81	1.3	10/1/81	1.3
10/6/81	18.31	2/1/82	13.8	3/3/81	8.2	11/1/81	4.2
				4/1/81	5.9	12/1/81	5.1
<u>SPENCER MEADOW</u>		<u>SURPRISE LAKES</u>		5/1/81	6.4	1/1/82	7.5
10/1/80	Recharge	10/1/80	Recharge	6/1/81	2.8	1/31/82	11.8
3/12/81	44.9	12/1/80	17.4	7/1/81	7.1		
4/1/81	7.6	3/12/81	23.6	8/1/81	1.1	<u>YELLOW CREEK</u>	
5/1/81	8.8	4/1/81	3.7	9/1/81	1.3	8/4/80	Recharge
6/1/81	4.5	5/8/81	9.8	10/1/81	0.3	9/6/80	6.98
7/4/81	8.7	6/1/81	4.3	11/1/81	4.4	10/2/80	4.50
8/1/81	0.4	7/1/81	8.9	12/1/81	7.2	11/7/80	7.42
9/1/81	0.3	8/1/81	5.4	1/1/82	12.4	12/2/80	10.12
10/1/81	43.8	9/1/81	0.9	1/31/82	14.3	1/6/81	12.60
11/1/81	10.0	10/1/81	5.0			2/3/81	2.93
12/1/81	15.0	11/1/81	9.4	<u>TROUGH</u>		3/3/81	12.60
1/1/82	20.0	12/1/81	14.1	10/1/80	Recharge	4/2/81	5.40
2/1/82	20.3	1/1/82	22.1	11/1/80	1.3	5/5/81	13.05
		2/1/82	20.4	12/1/80	3.9	6/3/81	6.75
				1/1/81	6.3	7/2/81	9.00
				2/1/81	2.9	7/30/81	4.05
				3/1/81	3.9	9/6/81	1.58
				4/1/81	1.2	10/6/81	10.35
				5/1/81	0.8	11/3/81	5.18
						12/1/81	7.66

Agencies Assisting with Snow Surveys

GOVERNMENT AGENCIES

Canada:

Ministry of the Environment, Water
Investigations Branch, Victoria, British Columbia

States:

Washington State Department of Ecology
Washington State Department of Natural Resources

Federal:

Department of the Army
Corps of Engineers
U. S. Department of Agriculture
Forest Service
U. S. Department of Commerce
NOAA, National Weather Service
U. S. Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Geological Survey
National Park Service

PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company

OTHER PUBLIC AGENCIES

Okanogan Irrigation District
Wenatchee Heights Irrigation District

MUNICIPALITIES

City of Tacoma
City of Seattle

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

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